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WOW! OFF-ROAD
MINI-Z pg. 78



RADIO CONTROL

car action

THE WORLD'S BEST-SELLING RC CAR MAGAZINE

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Triple-KT
Sport



**GLITCH
BUSTERS!**
How to get your
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MAKE IT LAST
6 can't-miss tips for
longer engine life

**FIRST
LOOK!**
A-Team
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Weapon

Maximum E-Maxx
More strength, more speed!
page 184



MAY 2003

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TAMIYA Baja King



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VOLUME 18 ■ NUMBER 5 ■ MAY 2003

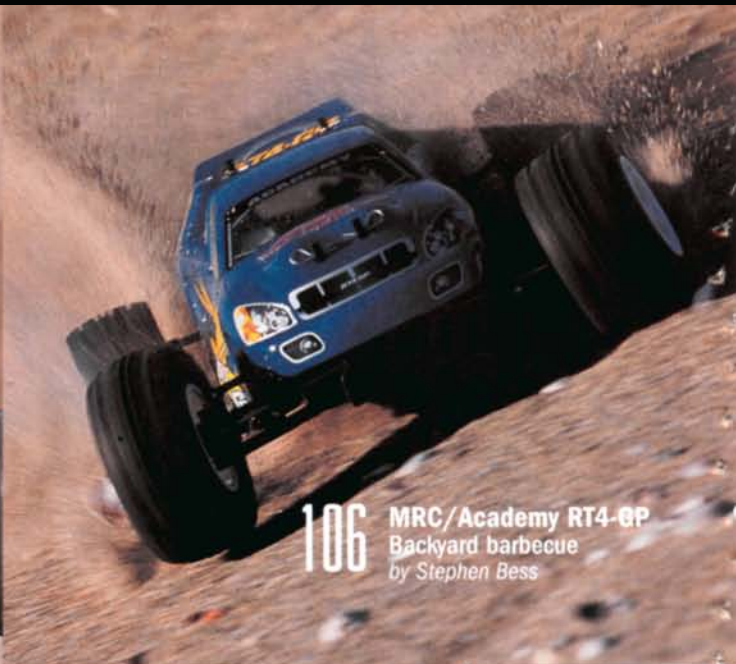


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ON THE COVER: (from top) Kyosho's Mini-Z Overland gets a hand; the Team Losi Triple-XT Sport heads for some hang time. Photos by Pete Hall and George M. Gonzalez.



Ready-to-run racing!

Could ready-to-run (RTR) cars and trucks be a boon to the racing scene? Racing has traditionally been reserved for kit builders; competition vehicles were only sold as kits, and the know-how required for (or gleaned from) the kit-building process was a critical part of any driver's success on the track. Now, the ability to build a kit is a completely optional requirement for competition-quality car ownership. RTRs such as Team Losi's Triple-XT Sport (reviewed in this issue) and Triple-XS Sport and Associated's RTR GT and T3 make getting behind the wheel of a genuine racecar as simple as opening a box. And that's a good thing because it means that there are more guys (and gals, we hope) just one step away from the racetrack. I'd like to see everyone with a raceable RTR take the plunge and start racing, and an RTR class could be a great incentive for those new drivers. Each shop would tailor its program to match the most popular RTRs it sells, but I think there are three basic tenets that should be part of any program:

The first race is free! Every customer who buys a race-ready RTR (or even a kit, for that matter) should get a voucher for one free race entry and an invitation to join the fun. Who could resist?

Let 'em use reverse. Obviously, brand-new drivers won't be able to cut clean laps right out of the gate. To keep the action going, let the RTR racers back out of trouble on their own; they'll have more fun that way, and it will prevent the corner marshals from having heart attacks. To prevent accidents, drivers would be forewarned that they cannot back up until it's safe to do so, or else a one-lap penalty would be given.

RTR class should be a beginner's class. There's nothing to stop an experienced racer from buying an RTR, but that guy shouldn't be racing in the RTR class. Likewise, racers should be encouraged to move out of the RTR class once they're ready for "regular" racing. Once an RTR class driver can post a designated number of laps per minute or has won the class three times, he should be required to move up to a class with more experienced drivers.

There are countless other ways to give RTR guys fair and fun racing programs. If you would like to see such a program at your local track, talk to the operator. Everyone who's into RC should try racing!

IN THIS ISSUE

The B4 is here! Get your first look at Associated's wonder buggy with our "First Look" article! This is the most innovative two-wheeler to come from the A-Team since the original RC10 blew us away in the '80s—check it out!

Monsters attack! There's more to the nitro monster truck world than the big-dollar 1/8-scale trucks. Just check out the 1/10-scale scene; we did! We'll help you find the flatbed that's right for you.

Off-road goes micro! Kyosho's Overland takes the Mini-Z series into the dirt and combines real off-road capability with the scale looks and Perfex radio gear that made the road-going Z-cars so popular.

And more ... E-Maxx fans, don't miss Kevin's butt-kicking project ride in "4x4." Are you a new nitro guy? Then don't miss our life-extending engine "How To." Academy's new 4WD off-road machine goes under the "Track Test" microscope, and Greg Degani's World Champion Kyosho MP-7.5 gets a close look in "Racer News." And there's more stuff in this issue than I can fit here ... so get crackin'!

Peter Vieira
Executive Editor

RADIO CONTROL car action

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HYPER 7 SERVO SWAP

I've been looking for an 1/8 scale RTR buggy, and after reading the "First Drive" on the Hyper 7 PBS, I've decided that's the one to get. I plan to install a more powerful steering servo, as the article suggests. Do I have to use an Airtronics servo, or will any brand work?

Any brand of servo will work with the buggy's Airtronics radio gear, but the included steering-servo horn (the "arm" attached to the servo) fits only Airtronics servos. The difference is the number of splines on the servo's output shaft; Airtronics servos have 23 splines; Hitec's have 24, and Futaba's have 25. All servos include horns, but they might not be strong enough for 1/8-scale buggy use. If you want to install a non-Airtronics servo and its included horn doesn't look as beefy as the one that comes with the buggy, you can buy a heavy-duty version separately. OFNA even sells them in a variety of colors.

—Pete

MONSTER LOSI

Now that Associated has plans to introduce a nitro monster truck, does Team Losi plan to make a monster truck like a Triple-XMT or something? If Losi made a nitro monster truck, whether big-block to compete with Associated or small-block to compete with the new TRX 2.5, it would really rip. It would probably be one of the best trucks on the market and a lot more competition!

Zach Younts
Liberty, MO

I'm with you, Zach; I think a Team Losi monster truck would be an awesome machine. Are they working on one? I wish I knew! Given the huge popularity of nitro monster trucks and Team Losi's newfound knack for producing excellent ready-to-run cars and trucks, I think a Team Losi nitro RTR monster would be a no-brainer.

—Pete

LEARNING TO WRITE GOODER

I'm 14. I like the way you guys write, and that is

what I want to do when I grow up (testing cars for free). Wow! Would that be great! What can I do now to practice writing car reviews, and when do all the companies introduce their new stuff? [email]

Stephen Nix

Wow! It is great to be an *RC Car Action* editor, but we don't just "test cars for free" all day. Sometimes, we supervise fashion models during photo shoots. If you want to be a writer, the best thing to do is write. Write reviews of the RC gear you buy, write stories, keep a journal ... just write. When you aren't writing, read. Pay attention in English class, enlarge your vocabulary, and ask your teacher what you can do to be a better writer (this will instantly make you a favorite student). Write, write, write.

—Pete

BEGINNER BUGGY

Can you suggest a good buggy for me? I'm new to RC and could use help. I'm 12 years old and want a good car for my money. I'm confused about which kind, though—nitro or electric, 4WD or 2WD. I'll run it at the baseball fields and in my backyard. Although there are a few RC tracks around here, they are several miles away. My parents are very supportive but will



pay only half the cost of a car for me (bummer). I do odd jobs around the neighborhood, so the buggy has to be low cost. Dad says I should be concerned about durability. I think



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HOTSTUFF

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The D5 Flatliner armatures come in doubles and singles and will fit P-94, D4, D3.5, Speedgems and most modified motors made by other manufacturers. The singles are quite awesome and are the ones Josh and I recommend.

Jim Dieter



www.teamtrinity.com

READERS WRITE

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TRINITY

that either the OFNA Ultra LX Pro or the Team Losi Triple-X4 would be right for me. Would you suggest one of these, or is there another one that I should look at? [email]
Joseph

For your first car, I suggest an electric vehicle. The Triple-X4 is the best 4WD buggy you can buy, but it certainly isn't the least expensive. Unless you definitely plan to race, I think the perfect kit for you might be the Tamiya Baja King tested for this issue. It's easy to build, a blast to drive, super-tough and inexpensive. If you'd prefer a ready-to-run buggy instead of a kit, check out Tamiya's Neo Top Force XB and Manta Ray XB; they're both 4WD and super-rugged. And, by the way, your parents are saints for putting up half the dough. You should be psyched, not bummed!

—Pete

RUSTLER HUSTLER

I bought a Traxxas Nitro Rustler with the new TRX 2.5 engine. I want hop-ups for it, but I don't know what to get next. I already have an aluminum tuned pipe, a carbon-fiber disc brake, a Pro-line 2000 Chevy Silverado body and Pro-line Dirt Works tires with Agitator chrome wheels. What else should I get?

*Mike Udelhoven
Columbus, WI*

Uh, more fuel? The Nitro Rustler is a rocket ship right out of the box; it doesn't need anything else. But it sure is fun to customize, as you've discovered. If you want to keep tricking out your Rustler, consider adding a set of Traxxas' aluminum Big Bore shocks and a faster, more powerful steering servo for more responsive handling.

—Pete

YOU SAID IT

"I got my neighbor hooked on RC ..."

I have been into RC for three years. I saw your mag in a magazine-sales fundraiser at school and decided to subscribe. I now have a T-Maxx and plan to buy a Traxxas Nitro Vee boat. I got my neighbor hooked on RC, and he got a few other people hooked. You guys are so helpful. Your articles help me a lot. Without them, I would be lost! You guys have a great mag. [email]
Craig Andrea

I am 15, and about a year ago, my friend brought his Associated TC3 to church. Then he took your mag out of his car and showed me all the different cars there are. Then he showed me the Buyers' Guide, and that's where I first saw a Team Losi Triple-XNT. As soon as I saw it, I knew I had to have it. So I asked my Mom (who I love so much when I want something) if she would buy it for me, and—you guessed it—she said no. I decided to do anything I could to earn the money, and I saved for a few months. By the time school ended, I was driving my Triple-XNT around the church parking lot before and after church. Then my stepdad bought one, and after that, a guy at church showed up with an RC10T3; now that guy has two electric RC airplanes, too. So, now my friends and I love bashing our cars, and we owe it all to your mag.
*Patrick Lynch
Hemet, CA*

See how easy it is to get a local RC scene going? Thanks for the kind words, guys; you can both pick out Trinity Reference bodies!

—Pete



Each month, "Readers Write" sponsor Team Trinity awards the "You said it" letter writer the Reference body of his choice. This is Trinity's C-Machine.

WRITE TO US! We welcome your photos, drawings, comments and suggestions. Letters should be addressed to "Letters," Alr Age Inc., Radio Control Car Action, 100 East Ridge, Ridgefield, CT 06877-4606 USA. Letters may be edited for clarity and brevity, and each must include a full name and address or telephone number so that the identity of the sender can be verified. We regret that, owing to the tremendous numbers of letters we receive, we can't respond to every one.

■ Peter Vieira: peter@airage.com
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inside scoop

THE LATEST STUFF • SPY SHOTS • INSIDER INFO

BY PETER VIEIRA



SHAFTED!

OFNA LD3

It isn't hard to guess where OFNA found the inspiration to build the LD3, but nitro touring's newest shaft-shooter has unique features all its own. Bevel-gear differentials are the most important features; RTR LD3s will get 4-gear units, while the upcoming "Pro" kit version will get 6-gear diffs. The diffs will be greased at the factory but will be sealed to hold silicone fluid, in case you decide to take the LD3 racing. Two RTR LD3s will be offered: a 2-speed version with built-in fail-safe (as seen here) and a lower-priced single-speed version without fail-safe. Both will include OFNA's two-box carry bag and OFNA's usual fuel bottle, glow starter and Airtronics radio gear.

OFNA Racing (949) 586-2910; ofna.com.



PRO-LINE HUMMER H2

There's no mistaking the squared-off lines of a Hummer! Pro-Line is the first to bring the world's toughest SUV to RC with this eye-popping body shell for your Maxx truck (and other monsters, with creative drilling). The crisply molded body captures every distinctive crease of the Hummer's sheet metal, and it's easy to get a good finish, thanks to the included window masks, overspray film and decals. Extended rear body mounts are also supplied.

If you want your Maxx to look just like this one, you'll also want to grab Pro-Line's Maxx bumpers,

Velocity 6 40 Series wheels, Big Joe 40 Series tires and a Maxx Performance suspension kit.

Pro-Line (909) 849-9781;
pro-lineracing.com.

SLICK civilian

GO LONG!

OFNA

Titan Deluxe

The .25-powered, lifted-chassis Titan is already enormous, but OFNA bumps up its bigness with the new "Deluxe" model. The aptly named monster truck with its longer chassis now stretches 22 inches from bumper to bumper, but there's more to the Deluxe than a longer hunk of aluminum: new drive shafts, shock-tower braces and lower support struts are also part of the package. In addition to bulking up the Titan, the extra room between the axles allows it to carry a 250cc fuel tank and accept an optional 3-speed tranny (not available yet, but stay tuned). Already have the "old" Titan? A Deluxe conversion kit will be available by the time you read this. OFNA Racing (949) 586-2910; ofna.com.



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RC6105, Switchblade 12, 9 pieces, \$89.99,	Their price \$173.62
RC6104, Ceramic motor bearing, 1 piece, \$8.99,	Their price \$14.99

DON'T CALL IT A "SPORT"!

XRAY T1R

Whatever you do, don't call the T1R a "sport" car in front of the XRAY guys. Although the T1R's composite-plastic chassis and shock towers make it more affordable than the all-graphite XRAY T1 and EVO2, the R-car is still a competition-ready machine. All of its parts are compatible with the EVO2, and XRay didn't skimp on the good stuff; duralumin bulkheads and ball diffs, high-tensile Hudy spring-steel turnbuckles and universal-joint axles and blue-seal ball bearings are all standard. The T1R is also fully adjustable (caster, camber, toe, anti-squat, ride height, droop and roll center can be tweaked), and even the differentials and shock damping are externally adjustable. Does that sound like a "sport" car to you?

XRAY; distributed by Serpent USA (305) 639-9665; teamxray.com.



Screaming Demon

TEAM ORION BLACK DEMON FUEL

Actually, this stuff is clear—not black—but "clear demon fuel" doesn't sound very cool. According to Orion, the Pro Blend 10% (for all-around use) and Factory Racer Blend 16% and 25% (used to TQ the ROAR Off-Road Gas Nats) all begin as the purest nitromethane and methanol that are mixed with a castor/synthetic oil blend for maximum performance, cooling and engine life. Team Orion Inc. (714) 694-2812; team-orion.com.



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Bushings
9323, \$19.99

Brought to you by Trinity Products Inc.

MINI MONSTER

TAMIYA QD TRAIL MASTER

Tamiya's "Quick Drive" line now includes the TXT-1-inspired Trail Master—easily the coolest QD yet. Like all of Tamiya's QD machines, the Trail Master is aimed at young first-time drivers and is fully assembled, decaled and ready to run with integrated electronics and a kid-size transmitter. All you need to add is a 9.6V battery for the truck and a 9V alkaline for the radio. It's fun right out of the box, but the functional 4-link, solid-axle suspension has our project-truck juices flowing. Tamiya America Inc. (800) 826-4922; tamiya.com.

LEXUS NEXUS

TEAM LOSI LEXUS IS300 190MM BODY

Team Losi is down with Lexus, too! The new IS300 shell has been massaged for aggressive handling on all 190mm tourers, and Losi says it's especially good on tight track layouts and in high-grip conditions where you need to "free up" the car for quicker response. The new shell and its "B-Type" rear wing are up to spec with ROAR and IFMAR rules, so you can roll through tech with confidence.

Team Losi; distributed by Horizon Hobby Inc. (800) 338-4639; teamlosi.com; horizonhobby.com.



Big Box o' Batts!

EPIC POWER BRICK

If you want an easy way to buy loose, unmatched cells to build your own custom packs, swing by the hobby shop and look for an Epic Power Brick. Each "Brick" contains 24 Sanyo 3300, Gold Peak 3300, or Panasonic Ultra Metal 3000 cells and is offered to dealers so they can sell you as many or as few cells as you need. And if you need all 24, they're already neatly packed! Epic, by Trinity Products Inc. (732) 635-1600; teamtrinity.com.





RACING FACTORY FLYER

TAMIYA TAO4-TRF SPECIAL CHASSIS KIT



As any Tamiyaphile will tell you, only the hottest, highest-performance kits earn the Tamiya Racing Factory (TRF) designation. The dual-belt TAO4 is the latest to get "the treatment," which includes Tamiya's new fluorine-coated, threaded-body shocks, a front one-way unit, aluminum pulleys, a "silver graphite" chassis, swaybars, blue-anodized-aluminum arm mounts and much more.

Tamiya America Inc. (800) 826-4922; tamiya.com.



STYLISH SEMI

TAMIYA KNIGHT HAULER

The Knight Hauler is the latest cross-country cruiser in Tamiya's 1/14-scale line, and like all of Tamiya's big rigs, it features an ultra-realistic, ladder-frame chassis with dualie wheels, leaf-spring suspension and 3-speed transmission. The bodywork is injection-molded in metallic blue for a no-paint finish, and plated detail pieces duplicate the brightwork of a full-scale semi. If you want to add a personal touch, Tamiya offers lots of hop-up and trailer options for the Knight Hauler and its other 1/14-scale rigs.

Tamiya America Inc. (800) 826-4922; tamiya.com.

SUPER STAND

ARGUS MACHINE RC PRO STAND

There's no way to top this truck stand, so put away your pencils and graph paper. The Argus stand is hogged out of solid aluminum and uses a locking ball pivot to hold your truck at any angle, and it clamps tightly (but releases easily) thanks to a cam-activated jaw that grabs a special skidplate you install on your truck (it's included with the stand). The Traxxas Maxx stand is available now, and versions for the HPI Savage 21 and other popular trucks are in the works.

Argus Machine Inc. (520) 293-7818.



Bored-out Big Block

PICCO .26

We've seen a few companies experiment with bored-out .21 powerplants, but when an Italian power broker such as Picco gets on board with a punched-out engine, we get very, very interested. The .26 uses the newest Picco big-block case design and will include a new, easier-to-tune carburetor. Internal specs are still being sorted out, so we can't tell you how many ports it will have, but we can confirm that it will be available in bump-start and pull-start versions.

Picco, distributed by OFNA Racing (949) 586-2910; ofna.com.

readers' rides

BY PAUL ONORATO

YOUR BEST BUILDS

BILL GLASGOW DE FOREST, WI TEAM LOSI TRIPLE-XNT

Bill sent us this nice picture of his Losi Triple-XNT that's decked out with a O.S. .15 engine, Pro-Line tires and a bunch of other go-fast goodies. The great-looking paint job really caught our eyes when we were going through the "Readers' Rides" mail bin. Nice paintwork!



STEVE HUGHES, GALLATIN, TN TRAXXAS T-MAXX

Resting beneath Pro-Line's cool Jeep CJ8 body is a highly modified T-Maxx. Steve used plenty of time and money to create this awesome ride. It features an O.S. .15 CV-X engine, Associated tuned pipe and shocks, Racers Edge skids and bumpers, RPM bulkhead braces, Novarossi aluminum wheels, Pro-Line tires, an Airtronics M8 and much more. Steve tells us he plans to add even more upgrades.



**READERS'
RIDE
OF THE
MONTH**

Take a cool-looking body and adapt it to a unique theme: Ling's cartoon-inspired touring truck earns our pick as the Reader's Ride of the Month. What sort of originality is rolling on your chassis?



LING TONG, FREMONT, CA ASSOCIATED TC3

This truck will look familiar to those who remember the "Transformers" cartoon. Ling painted this Yokomo Euro truck body to replicate the leader of the Autobots: Optimus Prime. A Team Associated TC3 brings the 'bot to life, and it's outfitted with a Futaba 3PK radio, Reedy TI motor, Novak Cyclone Speedo, a KO digital servo and Acer bearings.



SAM YU, STEVENSON RANCH, CA KYOSHO SUPER 10

Nothing beats an authentic-looking paint scheme, and Sam Yu did a nice job on this Mercedes CLK DTM. This Kyosho Super 10 is powered by a GS-15R engine with a tuned pipe that makes this Bavarian race car fly at the local track.

WIN A ONE-YEAR SUBSCRIPTION TO RADIO CONTROL CAR ACTION MAGAZINE!

Send a sharp, uncluttered, well-exposed color photo of your vehicle (no Polaroids) and a brief description to "Readers' Rides," *RC Car Action*, 100 East Ridge, Ridgefield, CT 06877-4606 USA. If we publish your photo, you'll receive a free, one-year subscription to *RC Car Action* and will be eligible to win the "Reader's Ride of the Year Contest." Write your address and phone number on your letter and on the back of every photo you send. Good luck!

MIKE CALLAHAN
NORTH ARLINGTON, NJ
GS RACING
STORM RTR

Take a lesson from Mike: when you've finished your new RC car, take it some place nice and snap a few pictures to send into "Readers' Rides." This GS 1/8-scale features a JR XR-3 radio system, a GS .21 engine and the stock RTR body.



ROY PITCHLYNN
POST FALLS, ID
ASSOCIATED
FACTORY TEAM T3

Nothing makes us happier than to see a race truck in its natural habitat. Roy runs this T3 in the Mod division at Monster Hobbies in Hayden. The truck has a Fantom 12x2 motor, a Novak Atom ESC and Pro Match 3300 cells for power. Larry Shull laid down the gorgeous yellow, green and checkered paint scheme.

The Best Kept Secret in Racing...



Reedy "X-cell" GP3300's.
Reedy/Yokomo Gold Peak 3300's have longer run times than most other 3300 Ni-MH cells, and have a great low price that makes them your **BEST** choice!

#665 Reedy GP3300
"X-cells", 6-Cells...\$89.99

#664 Reedy GP3300
"X-cells", 4-Cells...\$59.99



Reedy 3300 "Extreme" Sanyos. The newest 3300 Ni-MH cells from Sanyo! The Reedy 3300 "Extreme" cells are cycled, matched, and voltage treated for on-track performance you can really feel.

#660 Reedy 3300 "Extreme" Sanyos, 6-Cells...\$129.99

#659 Reedy 3300 "Extreme" Sanyos, 4-Cells...\$87.99

STEPHEN DIDOMIZIO
DANBURY, CT
TRAXXAS
T-MAXX TRX 2.5

Even after a tough New England winter, Stephen's T-Maxx looks as if it's poised for action. His Traxxas monster features a custom-built, brass-tube chassis, GPM springs, an Airtronics MX-3 radio, RPM skidplates, bumpers and Clawz wheels, Pro-Line tires and a Dodge Power Wagon body. The final additions for his custom, deep-green-metallic paint job were a few xxx-main babe stickers.



DAN WEST, SHELTON, WA
ASSOCIATED
FACTORY TEAM RC10 GT

This is the fourth addition to Dan's RC fleet, and he took the A-main win at his track on its first outing. Dan assembled the FT GT himself; he chose an O.S. .12CV-R for power. We're trying to figure out what he did with the headlight and grill stickers. ■

and New **MATCHED** Sport Packs!



Reedy's "Rated-X" Matched sport pack batteries use genuine Panasonic or Sanyo Ni-MH cells that have been given the same cycling, matching, and voltage treating as Reedy's championship-winning racing cells. The batteries are fully assembled in clear tubes so you can see the matching info right on the label of each cell. Don't settle for "mystery" cells in your sport packs... get Reedy's "X-Rated" packs and see the power you've been missing!



#698 Reedy "Rated-X" Sport Pack, Sanyo cells

#699 Reedy "Rated-X" Sport Pack, Panasonic cells

ONLY
\$59.99



Visit our Website: www.rc10.com/reedy



SAVAGE FUEL-TANK PROTECTION

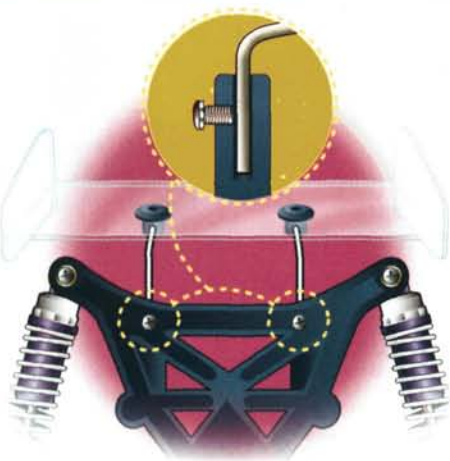
The fuel tank on the Savage is susceptible to being damaged during hard, off-road runs. To protect it, install a piece of angled aluminum on the chassis plate underneath the fuel tank; secure the aluminum angle with machine screws.

*Pedro Baker
Marriottsville, MD*

B3 WING KEEPER

To secure the wing on your B3, drill two holes in the thick part of the rear shock-tower web in line with the wing's wire holes. Thread screws into the holes to lock the wing in position.

*Glenn N. Relethford
West Haven, UT*



RECEIVER PROTECTION

It's important to isolate your electronics from vibration.

An easy way to protect your receiver is to wrap it in an old computer mouse pad. Cut the foam rubber so that it's slightly larger than the receiver's width and long enough to completely wrap around its length. Use the leftover material to line your radio box.

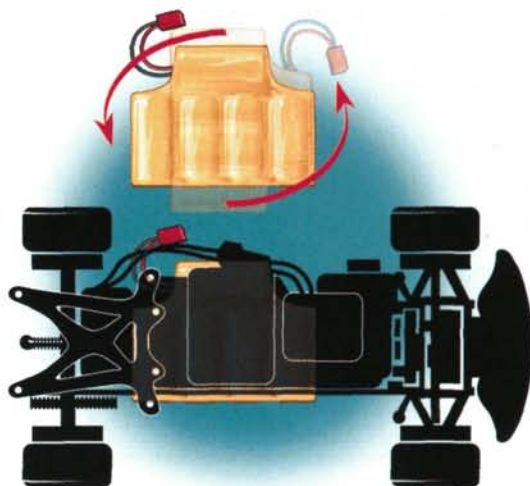
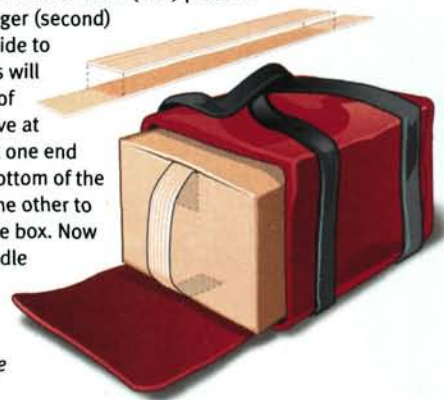
*Kevin Downey
Downingtown, PA*



HAULER HELPER

The boxes in some hauler bags are hard to remove, but here's an easy way to "handle" the situation. Cut a length of reinforced strapping tape that is 2 inches longer than the height of the box; cut a second piece of tape that's 4 inches longer than the first piece. Center the shorter (first) piece of tape on the longer (second) piece—sticky side to sticky side; this will leave 2 inches of unused adhesive at each end. Stick one end to the center bottom of the box and stick the other to the inside of the box. Now you have a handle that will help you take out the box easily.

*Matthew Moore
Trenton, NJ*



MICRO RS4 BATTERY RELOCATION

When you use a 5-cell rechargeable battery pack in a Micro RS4, the drive belt may rub against the battery pack and cause unwanted drive-train drag. Mounting the battery pack at 90 degrees from the "normal" position will keep it clear of the belt.

*Bobby Pearlott
Sierra Madre, CA*

ROTARY RIM ROUGHING

Scuffing the bead on the plastic rim will improve a tire's bond with the wheel, but it's time-consuming when you use sandpaper. Instead, scuff the rim's channel with a Dremel tool and wire-wheel attachment. Be sure to use the low-speed setting, and don't let the Dremel wheel rest too long in the same area. Of course, wear safety glasses.
*Adrian Stevens
Sylmar, CA*



LEAKY-SHOCK FIX

If shock oil leaks out from under the shock cap, use Teflon tape from the hardware store's plumbing department to stop the leak. Just wrap a small strip of tape clockwise around the threaded portion of the shock and reinstall the cap. One wrap is all you need.

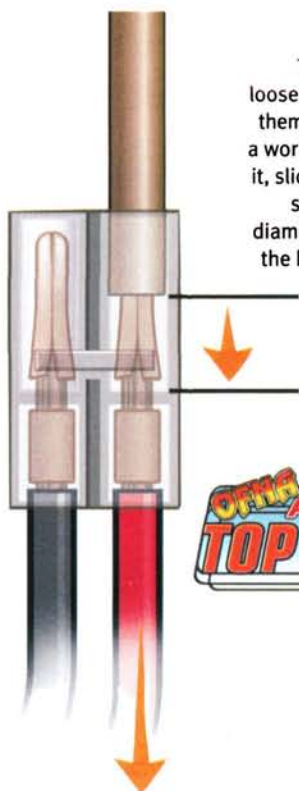
*Adam Wagner
Wheeling, IL*



TAMIYA CONNECTOR DISASSEMBLY

Tamiya-style connectors can loosen over time, thereby causing them to overheat and melt. To get a worn pin out so you can replace it, slide a brass tube over it that's slightly larger than the pin's diameter. The tube will compress the barbs on the pin so it can be slid out through the opposite side of the connector.

*Harrison Pike
Seabrook, SC*



EXTRA-SECURE TUNED-PIPE MOUNTING

Add extra holding power for your tuned pipe with this simple tip. Use a longer mounting wire that extends above the pipe, and bend the wire where it exits. Now, if the setscrew loosens, the bend in the wire will prevent the pipe from falling off.

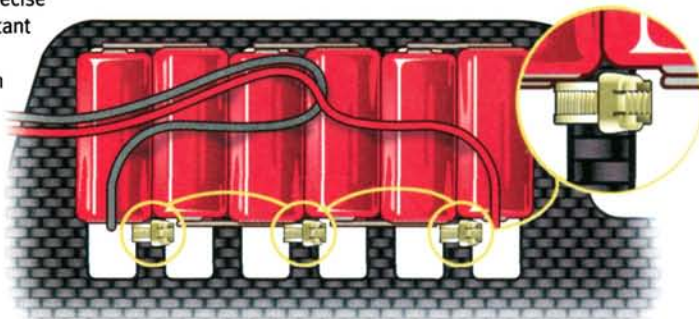
*Russ Bossidy
Mason City, IA*



CONSISTENT BATTERY PLACEMENT

When you race pan cars, precise battery placement is important if you're to have stable, predictable handling. When you find the optimal spot for the batteries, identify it with zip-ties so you'll always be able to install the batteries in the right spot.

*Dan Wysocki
Avon, CT*



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troubleshooting

YOU'VE GOT PROBLEMS? WE'VE GOT FIXES.

MAKING "BIG" CELLS FIT

I recently bought some unassembled 3300mAh cells for my car. Before I glued them together, I put the cells in my car and tried to extend the battery "strap" over them, but it didn't fit. What should I do? [email]

Dan Dickerman

Sub-C cells of various capacities may look as though they're the same size, but in reality, their dimensions vary slightly. For 1 cell, this difference in size is insignificant, but when 6 cells are laid side by side, the difference adds up. Certain cars may not be designed to handle cells of a slightly larger size. Here are a couple of things you can do to reduce the size of a battery pack.

1. Don't use extra heat-shrink material on the cells; their colored labels are already made of it.
2. Check the location of the label's seam. The label overlaps itself there, making the cell a little wider at that point. When you arrange the cells for assembly, make sure that they are not arranged seam to seam.

If these tricks don't help, try making one of these adjustments to the chassis:

1. Battery straps that are contoured to fit the shape of the cells are sometimes also designed to hold stick packs by simply flipping the strap over. Using the stick-pack side of the strap may create enough room for the 3300mAh cells.
2. Remove material from the strap with a Dremel tool.
3. Make the battery slots larger using the same Dremel tool. Be careful not to remove too much material; you don't want to weaken the chassis.



Although these sub-C cells may look as if they're the same size, they're actually different. The height from left to right is 42.8mm, 43.1mm and 43.6mm, and the width varies slightly, too. It might not seem like much of a difference, but it adds up when multiplied by 6.



The battery slots in some chassis may not be large enough for the cells to fit properly. Use a file to remove a little material at a time, and test-fit the cells after each pass.

REAL PERFORMANCE PRODUCTS!

T-Maxx/2.5-Maxx Steel Top Shaft

NEW



This precision machined **hardened** steel top shaft will fit all T-Maxx. Includes oversize ball bearing. RRP 8525

T-Maxx/2.5-Maxx FORWARD ONLY Steel Gear Kit

NEW



This kit contains a 26T **hardened** steel output gear, a forward drive hub adaptor, steel spacer and Pin. RRP 8586. **Hardened** aluminum version RRP 8585.

T-Maxx/2.5-Maxx Hardened Forward Primary Gear

Precision machined from solid steel and then **hardened**. RRP 8529. **Hardened** aluminum version RRP 8528.

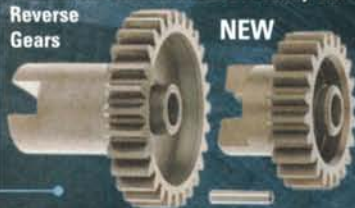
NEW



www.robinsonracing.com

T-Maxx/2.5-Maxx Forward Primary and Reverse Gears

NEW



This kit contains a precision machined **hardened** steel primary forward gear, a **hardened** aluminum reverse gear and pin. RRP 8521

MAKE NO COMPROMISES!

T/E-Maxx/2.5-Maxx Accessory Spurs



A wide range of spurs fit our Double-Disc Slipper Kits. Choose from machined Super-Tough plastic spurs in 66, 68, 70, 72, 74 and 76T sizes, RRP 82XX, or CNC machined steel spurs available in 65, 72 and 76T sizes, RRP 83XX. Small Clutch Plate/Gear Adaptor fits 65 thru 70T spurs. Large Clutch Plate/Gear Adaptor fits 72 thru 76T spurs.

T-Maxx/2.5-Maxx Lightened Spur And Double-Disc™ Slipper Kit



RRP's NEW line of Lightened Spur and Double-Disc Slipper Kits for Traxxas Nitro and T/E-Maxx/2.5-Maxx trucks are designed to improve performance and increase reliability. This combo incorporates a machined steel or Super-Tough plastic spur, a Vented Aluminum Clutch-Plate/Gear Adaptor, 2 Slipper Pads and 2 Plates to deliver the adjustability you need and the increased performance that you demand. **Complete Slipper Kits** are available in the following sizes: RRP 8166 Slipper Kit with 66T Super-Tough plastic spur (Stock Size) for E-Maxx RRP 8172 Slipper Kit with 72T Super-Tough plastic spur for Traxxas Nitro RRP 8465 Slipper Kit with 65T Steel Spur for Traxxas Nitro RRP 8472 Slipper Kit with 72T Steel Spur (Stock Size) for T-Maxx. Spurs, Clutch-Plate/Gear Adaptor and Slipper Pads also sold separately.

T-Maxx/2.5-Maxx Primary Reverse Gear

This gear is precision machined from solid aluminum and **hardened**. Includes pin. RRP 8522



NEW

STARTER MOTOR POWER-UP

My T-Maxx's electric starting motor works but does not have enough power to turn over the engine. What should I do to get my truck back out and running again? [email] Paintballa

Over time, the starter motor can become worn and lose its effectiveness. This could be your problem, but you should check a few things before you run out and buy a new motor. Install a freshly charged battery in your EZ-Start system, so you can rule out the possibility of a low battery. Before you hook up the starting system, try to move the engine's flywheel with your fingers. If it's very difficult to turn, you need to work it free before you hook up the EZ-Start. The little starting motor won't be able to turn over an engine that is really tight and has seized. Now look at the leads to the motor, and make sure that they make good contact with the motor's positive and negative terminals. If everything is good but the motor is still out of oomph, remove the motor from the truck and clean it thoroughly with motor spray. Spilled fuel and grime sometimes work their way inside and cause problems. After you've cleaned the motor, look through the endbell and inspect the copper wiring; a worn motor's copper winds will look burnt. If the motor's wires aren't shiny, there's a good chance that you'll have to spend a few bucks on a new motor.



Left: check to make sure that the plugs are making good contact with the motor leads. If they seem loose or come off easily, use a pair of pliers to squeeze the plug for a tighter fit. **Above:** the inside of the motor can get dirty after a lot of use. Remove the motor, and bathe it thoroughly with motor spray.

T/E-Maxx/2.5-Maxx Steel Diff Gear Set



T/E-Maxx/2.5-Maxx differential gear set, includes: 1 beveled pinion gear, 1 beveled spur gear, 4 re-usable stainless steel Phillips head screws, 1 tube Associated Black Grease, and a shim kit for spider gears with 10 .003" shims. 2 sets needed per truck. RRP \$590

T-Maxx/2.5-Maxx Aluminum High Performance Brake Kit



New, lightweight aluminum high performance brake kit, includes bigger, more aggressive brake pads and steel backing plates. One piece vented rotor minimizes side-to-side wobble. Also fits newer T-Maxx. RRP \$562. Older style half shafts use Brake Kit RRP \$560.

DON'T SETTLE FOR SECOND!



www.robinsonracing.com

T-Maxx Vented Flywheels



Aluminum vented flywheels move air over clutch bell, improving performance and cooling. RRP \$551 Blue, RRP \$550 Natural Silver. **NEW 2.5-Maxx Vented Flywheel, Blue Only RRP \$552.**

T/E-Maxx/2.5-Maxx Replacement Pinion



This precision machined steel steel pinion fits RRP \$590 Diff Gear. RRP \$591

FORWARD ONLY Racing Gearbox For T-Maxx/2.5-Maxx



Precision CNC machined from aircraft grade billet aluminum this FORWARD ONLY Racing Gearbox will give your T-Maxx or 2.5-Maxx a serious competitive edge. RRP \$595

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RUN-TIME EXTENSION TIPS

I am having trouble getting normal run time from my micro's 7.2V, 1100mAh NiMH batteries. My friend usually gets twice the run time with similar batteries, although he uses a different charger. What should I do? [email]

Ron Bonilla

When you charge micro-specific packs, set the charger between 1 and 2 amps. Do not over-heat the pack by overcharging it at an amp rate of 2 or higher; this can cause permanent damage to the cells. When a charger shuts off, indicating a full charge, the battery should feel warm. If it isn't slightly warm, then the battery has likely false peaked. This may happen if the charger isn't designed to charge NiMH cells or isn't functioning properly. If you're unsure about your charger, ask your friend if you can borrow his for one charge. Charge your pack exactly as he charges his; then run your micro with that pack. If run time increases dramatically, you'll know that you have a problem with your charger. If your run time remains the same, you'll know that you have a problem with your battery. Try cycling the stingy cells a few times. To do this, simply charge and then discharge the pack. Allow time in between cycles for the cells to cool down to room temperature. After you've cycled the pack a few times, give it one final charge, and then test it in your car; you should notice an increase in run time. If not, your cells are either damaged from previous abuse or have lost their efficiency.



Rechargeable Micro RS4 NiMH battery packs such as this one require a low charge rate between 1 and 2 amps so the pack does not overheat or false peak.



Check the specs of your charger to see whether it's capable of charging NiMH battery packs. If the charger has adjustable charge amperage, you can set it to the amp rate recommended for NiMH packs.

RS4 Nitro Aluminum Brake Kit



Lightweight aluminum, variable braking system. RRP 1575

RS4 Nitro Vented Flywheel



Aluminum vented flywheels move air over clutch bell, improving performance and cooling. RRP 1570 RRP 1571 Pull Start

T-Maxx/2.5-Maxx Hardened Steel Clutchbells



CNC Machined from solid steel these bells are built to last. They take the 5x11 bearing (NOT included). Available in 19T, RRP 8119, 20T RRP 8120, 21T RRP 8121 and 23T RRP 8123.

RS4 Nitro Small Aluminum Drive Pulleys



Hardened drive pulleys, sold in pairs. RRP 1538

48P Absolute Series Pinions



Super hard, lightened and cut with unmatched precision. Great with any spur, but with an Absolute spur, even on-off noise is gone! Available in 48P in 16T thru 28T sizes. RRP 1416 - RRP 1428.

48P / 64P SuperLite Aluminum Pinions



They're lightened, hard coated and precision cut. Available in 48P in 16T thru 28T, and 64P in 24T thru 38T. RRP 30XX (48P) and RRP 31XX (64P). Only \$5.25

Stealth Spurs



These precision machined spur gears are super quiet. They're available in 48P in 60T thru 96T sizes, and fit any Associated or HPI electric car or truck. RRP 1860 thru RRP 1896.

RC-10GT 48 Pitch Spurs



Precision machined from heat-resistant, super tough plastic, these spurs mesh flawlessly with our Clutchbells. Available in 63T thru 67T, RRP 2263 - RRP 2267.

48P Hard Nickel Plated Steel Pinions



These precision cut gears have an extremely hard coating that makes them really last. Available in 12T thru 35T. RRP 1012 - RRP 1035

SLOW-STEERING FIX

The steering in my OFNA MBX 9.5 is really slow. The steering servo takes more than 1 second to reach full throw. Can I fix this, or do I need to buy a new steering servo? [email]
The Halls

First, make sure that the receiver battery is fully charged or that you use new AA batteries. A dead battery pack will definitely slow down the response of the servos. Since rechargeable AAs produce only 1.2 volts, a 4-cell configuration producing 4.8 volts falls short of the servos' required 6 volts. To produce adequate voltage, rechargeable batteries need to be in a 5-cell pack. This is a minor oversight that I have seen before. Store-bought alkaline batteries produce 1.5 volts, so four of them produce the necessary 6 volts. If the battery pack is not your problem, then check to see whether any of the steering linkages are binding. Remove the servo horn, and then rotate the wheels; they should turn freely. If they don't, find out what's causing the stickiness. Check for damaged parts, and lube the bellcranks with a little WD-40. If everything seems fine, then move on to the servo itself. Turn on your radio and your car. Turn the steering wheel, and listen to see whether the servo grinds. If you hear what sounds like stripped gears, you can either save dough by purchasing new gears or toss the servo and buy a new one. If you can afford a servo with high torque and metal gears, you'll notice a big improvement.



The 4-cell alkaline pack on the left and the 5-cell rechargeable pack on the right both produce 6 volts. Alkaline cells produce 1.5 volts, and rechargeable cells produce 1.2 volts. Don't make the mistake of using rechargeable AA cells in the 4-cell battery holder; they won't produce enough volts to properly operate the steering servo.

TOOLBOX

Trinity Micro RS4 Gear Puller

The small press-fit pinions on Micro RS4s are difficult to remove, especially without causing any damage to the pinion. Trinity's Micro RS4 Gear Puller works perfectly to remove the little gears, and it won't harm any of the parts. The Gear Puller is machined of aluminum and operates smoothly. Just slide the bottom of the tool over the motor shaft, turn the T-bar, and the gear slides off the motor.

Micro RS4 gear puller—item no. RC2086; \$9.99.

Trinity Products Inc. (732) 635-1600; teamtrinity.com.

NEED HELP?

Send your "Troubleshooting" questions and comments to Jason Sams, jasons@airage.com.

RC10-GT Steel Combo



Precision machined from solid steel, then hardened, this 65T spur and 15T bell combo will last and last. RRP 2365

RC10-GT Hardened Steel Idler Gear



Cut from solid steel stock, this RC10-GT gear is lightened and hardened for super quiet precision and extra long life. Black tranny grease included. RRP 2213

Associated Titanium Stealth Top Shaft



CNC Machined from solid titanium, this super hard, super light top shaft will fit any Stealth transmission. RRP 1512.

RC-10GT Hardened Steel Clutchbells



These steel Clutch Bells are CNC machined from solid steel then the teeth are machined on. This makes the part stronger with less gear "run out". Available in 14T thru 20T, 22T and 24T. RRP 22XX

www.robinsonracing.com

Blue Lightened Slipper Kit



The rear plate is hard anodized and the front plate is color treated. The front plate holds the pad forcing it to slip on the rear plate. When pad wears, just flip it over for a new surface. RRP 1515 Associated

Hardened Diff Gear



Hard anodized, precision CNC machined aluminum diff gear. RRP 1513 RC10-GT

TC3 Ultra 48 Pitch Spurs



Precision machined from heat-resistant plastic, these spurs mesh flawlessly with our pinions. Available in even numbers from 70T thru 80T. RRP 1670 - RRP 1680.



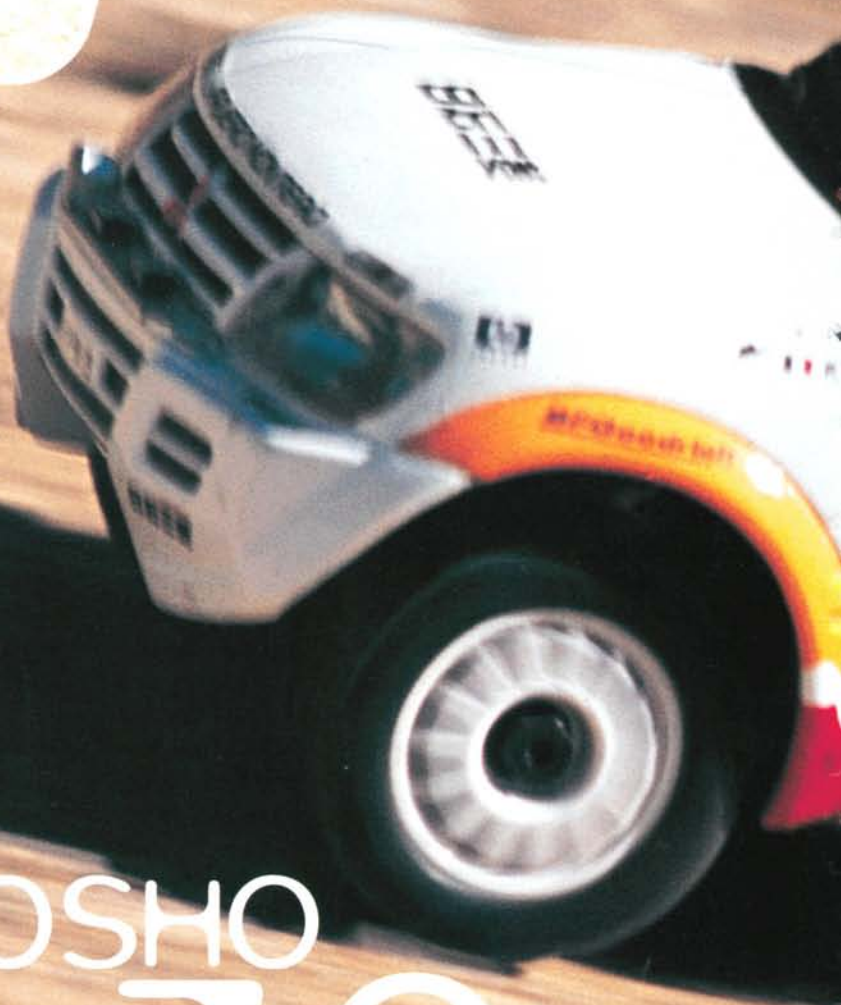
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by Jason Sams

Kyosho's original Mini-Z and Mini-Z F1 cars are immensely popular in the U.S. and abroad. Much of their success comes from the fact that these true-to-scale little cars are affordable and come fully assembled with sophisticated electronics, and they handle exceptionally well for their size. Diversity has also been a big part of their appeal; Kyosho offers the Z chassis with a large variety of painted and decaled body shells that replicate everything from a Le Mans racer to a street-legal exotic. But until now, off-road machines have not been part of the "mini-verse." All that changes with Kyosho's new addition to the Mini-Z family—the Overland. Instead of simply placing an off-road-style body on the existing Z chassis, Kyosho designed a new platform with an enclosed gearbox and a genuine off-road suspension. The Mini-Z Overland really can do it in the dirt!



KYOSHO MINI-Z OVERLAND Tiny off-road TERROR



Photos by GG Walker Slide

kyosho mini-z overland features

1 TRAILING-ARM SUSPENSION. The Overland features an upper and lower trailing arm suspension with coil-over shocks at all corners. The lower trailing arms pivot on hinge pins that are captured by the battery holders on both sides of the chassis. The straight-axle rear motor pod and front steering system are separate assemblies that pivot on a single pillow ball that is attached to the end of each lower arm.

A pair of upper trailing arms allows an amazing amount of side-to-side articulation. The upper ends of the shocks are mounted on front and rear shock towers, while the shock bottoms are attached to ball studs on the lower arms. The undamped shocks are really just spring holders, but applying thick grease can produce some damping. Kyosho also offers tiny oil shocks as an option.

2 INTEGRATED ESC/RECEIVER UNIT. The Overland's electronics are housed centrally between the battery-holding trays on the sides of the chassis. The frequency crystal is mounted on top of the chassis to keep it out of harm's way and to allow quick and easy crystal changes. A small piano-wire antenna picks up the signals from the receiver.

The ESC provides smooth, proportional

throttle control in both forward and reverse. The Overland has a "double-pump" reverse system: the first application of up-trigger activates the brakes only. To engage reverse, the trigger must be returned to neutral and then pushed up again. With this system, brake control and reverse are fully proportional, and there's no chance of accidentally engaging reverse.

3 RACK-AND-PINION STEERING. The Overland's rack-and-pinion-steering system is just like the road-going Mini-Z's, except that the steering rack is in front of the axles and not behind them. When you crank the wheel in either direction, a gear-reduction system slides the steering rack to aim the front wheels.

4 ADJUSTABLE WHEELBASE. It just wouldn't be a Mini-Z without an adjustable wheelbase. The Overland's chassis has six wheelbase configurations—the most adjustable one by far. The lower front and rear V-plates pivot on hinge pins that can be moved forward or rearward to accommodate a variety of body options.

5 FACTORY-PAINTED AND DECALED BODY. Just like the other cars in the Mini-Z line, the Mitsubishi

Pajero body is remarkably well painted and detailed. Separate headlights, taillights, fog lights and rearview mirrors provide scale realism. It boggles the mind to think about how quickly and precisely the decals are applied at the Kyosho factory. Even someone with static-model detailing skills would have to take most of an afternoon to apply the decals on this hard-plastic body! The body is almost too beautiful to thrash, but battle scars add to the scale realism of any rally car.

6 REALISTIC WHEELS. The Overland rides higher than the Mini-Zs, thanks to its larger wheels and tires. The treaded, soft-rubber tires look scale and provide good traction on many surfaces. The multi-spoke white wheels are equally scale looking and attractive. The wheels spin on plastic bushings that can be replaced with bearings, and plastic nuts secure the wheels to the axles.

7 LOCKING DIFFERENTIAL. The Overland's bevel-gear differential is similar to the on-road Mini-Z's unit but includes a plastic gear cover to protect its pinion and spur gear from dirt. An included diff locking plate can be installed in less than a minute to improve the truck's climbing capabilities and handling on rough terrain.

SPECIFICATIONS

MANUFACTURER Kyosho
MODEL Mini-Z Overland Pajero
DISTRIBUTED BY Great Planes
SCALE 1/28
PRICE \$150

DIMENSIONS
 Wheelbase 3.7 in. (95-110mm)
 Width 4.3 in. (70mm)

WEIGHT
 Total, as tested 7.5 oz. (222g)

CHASSIS
 Type One-piece frame with integrated electronics
 Material Plastic

DRIVE TRAIN
 Type Enclosed gearbox, solid rear axle
 Primary Pinion/spur gear
 Differential Bevel gear, lockable
 Bearing type Plastic bushings

SUSPENSION
 Type (F/R) Solid-axle trailing arm
 Shocks Undamped springs

WHEELS
 Type One-piece plastic

TIRES
 Type Solid rubber, scale tread pattern

RADIO GEAR
 Transmitter Kyosho Perflex
 ESC Integrated with chassis and receiver
 Steering servo Integrated with front axle assembly

performance

There were plenty of obstacles in my living room to test the Overland's off-road prowess without my having to head outdoors. The carpet provided tons of traction—enough to allow the Pajero to perform reverse-to-forward wheelies. That can't be good for the tranny, but, boy, did it look sweet! Unfortunately, the super-sticky traction also made it easy to roll the truck under hard cornering, but that's to be expected of a vehicle with a high center of gravity and a narrow track. As long as you reduce speed by a couple of clicks in tight turns, the Overland chassis will stay shiny-side up. The tiny truck steers very aggressively for a machine of any size, let alone a model that fits in the palm of your hand. For tight maneuvers (or escapes from beneath the coffee table), the Pajero has all the steering you need. It also has the suspension travel you'll need to surmount small obstacles, but the tiny friction shocks offer negligible damping, so it's a bouncy ride. Expect to see some big boings if you jump the truck, as I did. I spread open a phone book to serve as a ramp and launched the Overland over its spine. The little Pajero lifted off nicely, but landings were rough. Still, it kept coming back for more.

After a couple of good sessions inside, I went outdoors to test the Overland off road. On smooth dirt,

the rear wheels were able to kick up some roost, and that made it very easy to send it into a rally-style power slide, but lumpy stuff was too much for the Mini-Z to plow through at speed; it's just too small for that sort of thrashing. As long as the rear tires can find traction, however, it can crawl through the worst terrain at more scale-like speeds.

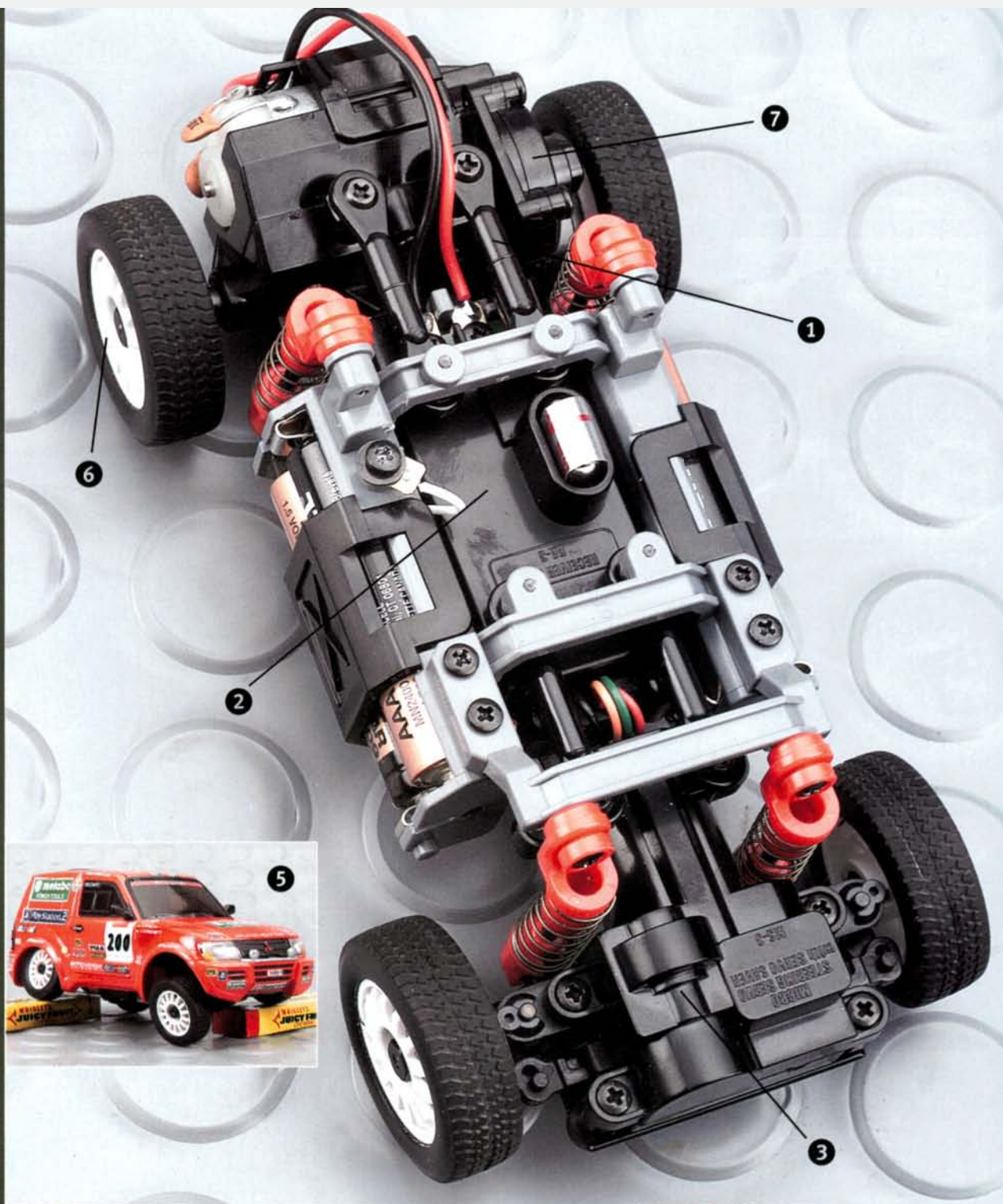
The Verdict

Kyosho's Mini-Z Overland chassis is a remarkable piece of micro engineering. The standard Mini-Z is already a trick piece of hardware, but adding a functional, long-travel (relatively speaking!) suspension to a design that already pushed the limits of micro RC shows some truly inspired thinking. Kyosho has cleverly assembled the Mini-Z components into a rugged, entertaining package wrapped in a display-quality shell. I look forward to seeing the Land Cruiser version, and if Kyosho is anywhere near as prolific with new bodies for the Overland as it has been with Mini-Z sedan bodies, the "mini off-road" scene will be full of even more choices! ■

SOURCE GUIDE

KYOSHO; distributed by Great Planes Model Distributors; (800) 637-7660; kyosho.com.

MINI-Z OVERLOAD





100% ready-to-race right out of the box w/pistol-grip radio.



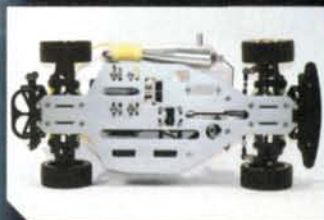
The long-stroke, high-torque M-16 puts out 1+ HP and has all the right features like true chrome ABC piston/sleeve technology, twin-needle carburetion and slide-valve for superior acceleration.



Suspension features fully adjustable tow-in, caster and camber turnbuckles. Hard anodized oil-filled coil-over shocks, swaybars and ball-bearings found throughout front and rear suspension.



Fully ball-bearing 2-speed transmission and composite-fiber disc brake.



Counter-sunk flush chassis (except motor mount screws) is made of T6 aluminum.

THE



55 MPH+ OUT OF THE BOX

AVAILABLE IN THREE STYLES:

MTC7802 PORSCHE

MTC7803 LEXUS

MTC7804 MERCEDES CLK

We loaded the Razor XT with all of the hot performance options right out of the box. Check out this long list of factory installed features:

- CVD (constant velocity drive) on all four axles
- Shaft drive w/ adjustable 2 speed transmission with LoraTech™ gears
- Complete with full ball bearings
- Fully adjustable front and rear anti-roll bars
- Fully adjustable turnbuckles and steering links
- Mounted & glued racing tires
- Triple-shoe heavy-duty clutch
- Hard anodized aluminum oil-filled, heavy-duty, full adjustable shocks
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FIRST LOOK >>

Team Associated B4

by George M. Gonzalez



A prototype of Team Associated's B4 1/10-scale electric buggy debuted at the 2002 International Model & Hobby Expo, and the editors of **Radio Control Car Action** agreed that it was the most monumental new car there. The B4 is an all-new design from the ground up; it shares only a few parts with its predecessor, the B3.

According to Team Associated, the B4 is its most tunable buggy ever and is easier to adjust and maintain than the previous RC10 series buggies. In addition, the new car has the lowest possible center of gravity (CG) and has fewer parts than the B3. We'll have to wait until Associated releases the B4 in final production trim to give you a full "Track Test," but right now, we can give you the bench-top B4 experience.



SPECIFICATIONS

MANUFACTURER
Team Associated

MODEL
B4 Team Kit

ESTIMATED PRICE
\$179.99

DIMENSIONS
Wheelbase: 10.72 in. (272mm)
Width: 9.875 in. (251mm)

WEIGHT
Total, with electronics (as shown):
54 oz. (1,531g)

CHASSIS
Type: molded semi-tub
Material: composite plastic

DRIVE TRAIN
Type: 3-gear sealed transmission
Transmission ratio: 2.6:1
Slipper clutch: dual disc

AXLES
Type: MIP CVDs

DIFFERENTIALS
Ball type

BEARINGS
Rubber-sealed

SUSPENSION
Lower H-arms with turnbuckle
camber links

SHOCKS
Hard-anodized aluminum body
with foam volume compensator

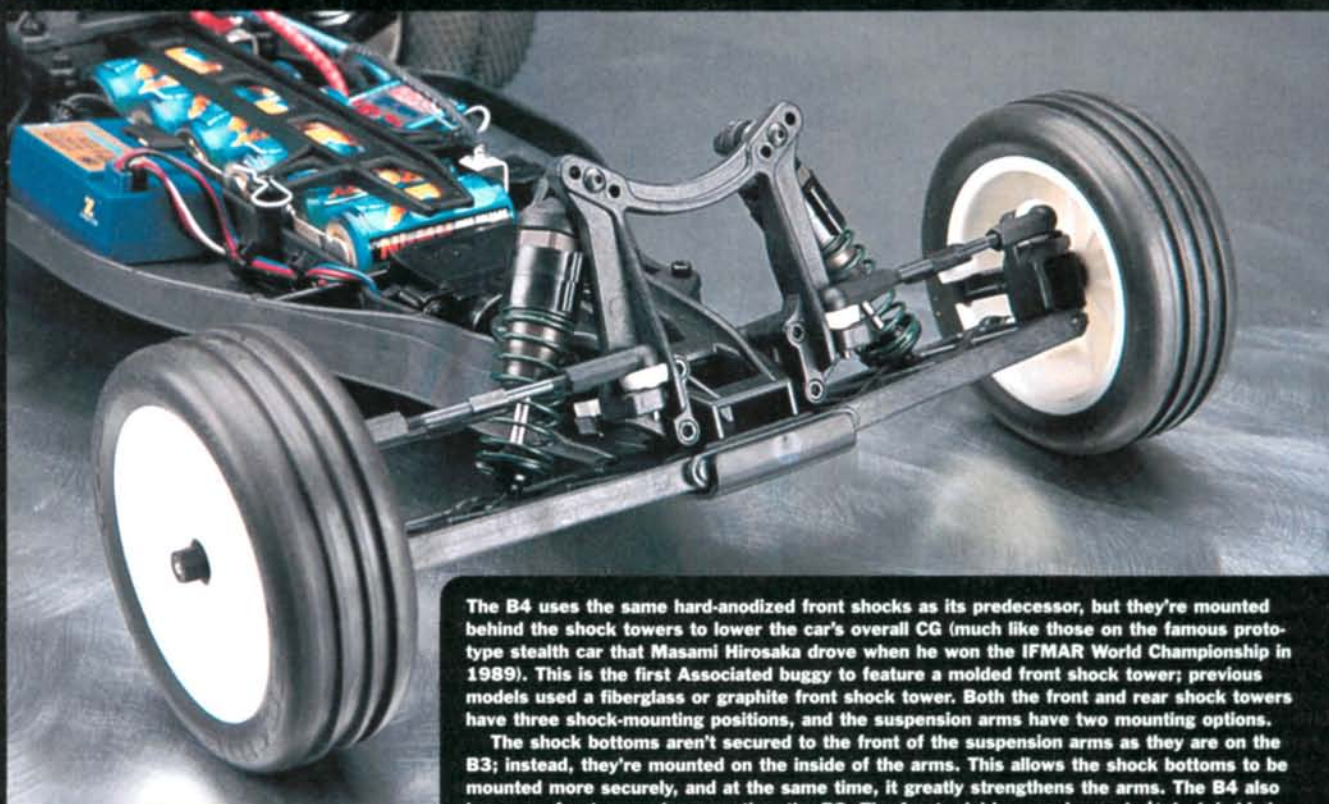
WHEELS
Type: one-piece plastic
Dimensions (F/R): 2.2x.875 in./
2.2x1.4 in.

TIRES
Type (F/R): Pro-Line M3-compound
Wide Body/M3-compound Bow Tie

THE A-TEAM'S LATEST WARBIRD

FIRST LOOK >>

TEAM ASSOCIATED B4



The B4 uses the same hard-anodized front shocks as its predecessor, but they're mounted behind the shock towers to lower the car's overall CG (much like those on the famous prototype stealth car that Masami Hirosaka drove when he won the IFMAR World Championship in 1989). This is the first Associated buggy to feature a molded front shock tower; previous models used a fiberglass or graphite front shock tower. Both the front and rear shock towers have three shock-mounting positions, and the suspension arms have two mounting options.

The shock bottoms aren't secured to the front of the suspension arms as they are on the B3; instead, they're mounted on the inside of the arms. This allows the shock bottoms to be mounted more securely, and at the same time, it greatly strengthens the arms. The B4 also has more front nose clearance than the B3. The front mini bumper is nearly 1/2 inch behind the front tires. In a nose-dive situation, the front tires—not the bumper—will contact the track surface, so the buggy will recover with fewer hang-ups.

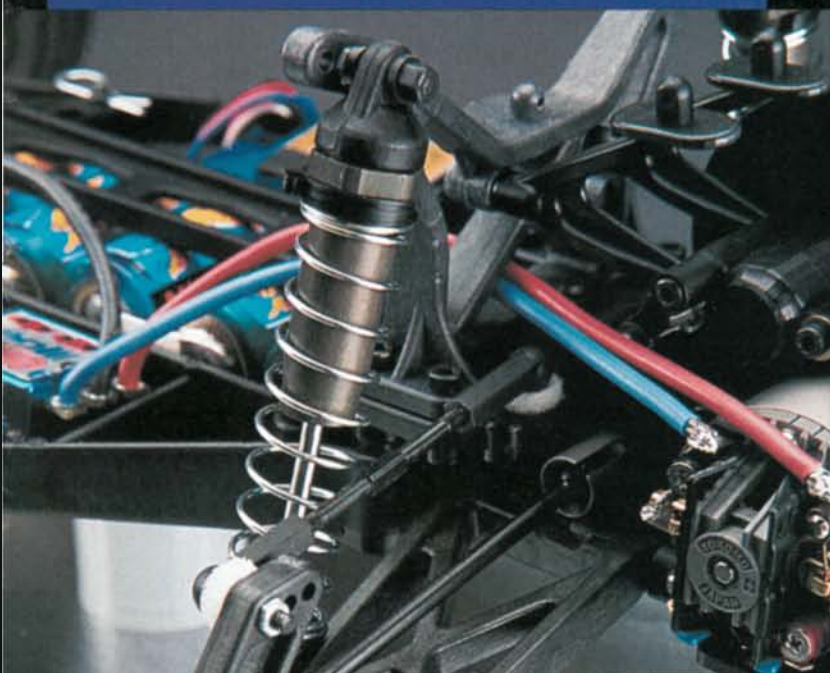


The B4's molded-plastic-composite chassis doesn't have the same separate aluminum nose and rear suspension plates as the B3 buggy. Instead, this new chassis extends all the way to the front of the vehicle and has a built-in 25 degrees of kick-up.

The rear pivot block has molded-in rear-suspension-arm mounts, and an interchangeable suspension-arm mount on the pivot block in front of the rear suspension arms allows rear toe-in adjustment. Rear anti-squat can be adjusted by installing washers under the suspension-arm mounts. The battery, motor and steering servo are mounted low on the chassis to further lower the CG, and that improves cornering speed and makes the buggy more stable through jumps and bumps.

The front bulkhead and the bellcrank steering system are attached to a small upper deck that interlocks with the chassis. Just remove a few screws, and you'll be able to remove the front suspension and steering system as a complete assembly for maintenance.

The B4 is also the first Associated buggy since the original RC10 to come equipped with trailing-axle steering blocks. The optional in-line steering blocks allow you to alter the buggy's steering characteristics while maintaining the correct axle and Ackerman settings. To adjust the length of the camber rod, there are two camber-rod mounting options on the caster blocks and front bulkhead. Additionally, to keep bump-steer to a minimum through the entire range of suspension travel, the steering drag link and steering blocks are on same plane.



Roll-center geometry can be adjusted by installing washers under the vertically mounted ball studs on the inside of the rear upper links. For camber-rod length adjustment, a couple of mounting positions for the inner ball studs have been molded into the chassis. The transmission is keyed to the chassis, and it's interlocked with the rear shock tower for greater rigidity. The trick, molded rear wing mount doubles as a transmission brace. Molded spacers installed on the body posts allow three wing-angle settings: 0, 3 and 6 degrees. Additionally, the motor is mounted lower and farther inward on the chassis to keep the center of gravity low.

Cliff's notes



SKUNK WORKS ENGINEERING

Designing and manufacturing as complex a project as the B4 requires a team of talented designers and engineers. Cliff Lett is well known as the Team Associated designer, and although he heads the A-team's engineering department, he doesn't go it alone. Torrance DeGuzman has been part of the team for the past three years, and he played a major role in the development of the Nitro TC3. Kurt Wenger is the most recent addition to the design department, and he brings his background in aerospace engineering to the Associated brain trust. We asked Cliff to answer a few questions on behalf of his crew about the B4's development.

RC CAR ACTION: What were your goals when you fired up the CAD software and began the design phases?

CLIFF LETT: A lot has changed since the B3 buggy was introduced. At that time, most racers wanted a car that handled well on bumpy tracks and needed fewer adjustments. These days, most tracks have hard-packed, blue-groove-type surfaces, and racers like to have many tuning options. Our first goal was to design the most adjustable buggy to date. Lowering the car's overall CG was extremely important. Most weight comes from the battery, motor, steering servo and shocks, so these components had to be lower on the chassis. We also wanted the buggy to have fewer parts, to be easier to maintain and to have rear wheels that would be compatible with other manufacturers' wheels.

RCCA: Which of the B4 features are you particularly proud of?

CL: We're proud of the entire car, but the B4 is just so much easier to work on. There are fewer parts, and all of the screws and vertical ball studs are easy to reach; that makes maintenance and tuning a breeze. All of the major components interlock with one another to form a solid structure. By taking out a few screws, you can remove the front suspension as a complete assembly. The same goes for the transmission and rear suspension. A lot of attention to detail went into the B4. Even the body was designed with our Solid Works software.

RCCA: I understand that a few Team drivers have raced the B4 at club races; how does it hold up in battle?

CL: Very well. Travis Amezcua TQ'ed and won at SoCal Raceway the first time he raced the car. If you know anything about SoCal Raceway, you'll know that racing there on a Saturday night is like competing at the Nationals; many of Southern California's top drivers race there. Other drivers have similar success stories.

RCCA: Will other versions of the B4 buggy be available?

CL: For the time being, we will offer a B4 Team Kit that includes MIP CVD axles, hard-anodized Team shocks, rubber-sealed bearings and Pro-Line M3-compound Bow Tie rear tires and Wide Body front tires. A Factory Team Kit may follow, and we're discussing other variations as well.

RCCA: Any word on the possibility of a T4 racing truck and a nitro truck after that?

CL: I'd be lying if I told you that we weren't considering a racing truck. Of course, we designed the B4 chassis with a racing-truck application in mind. We'd be fools if we didn't. I don't have any details because that project is so far down the line. A new gas truck? I think that you're getting ahead of yourself, George. Don't make me slap you!

FIRST LOOK >>

TEAM ASSOCIATED B4

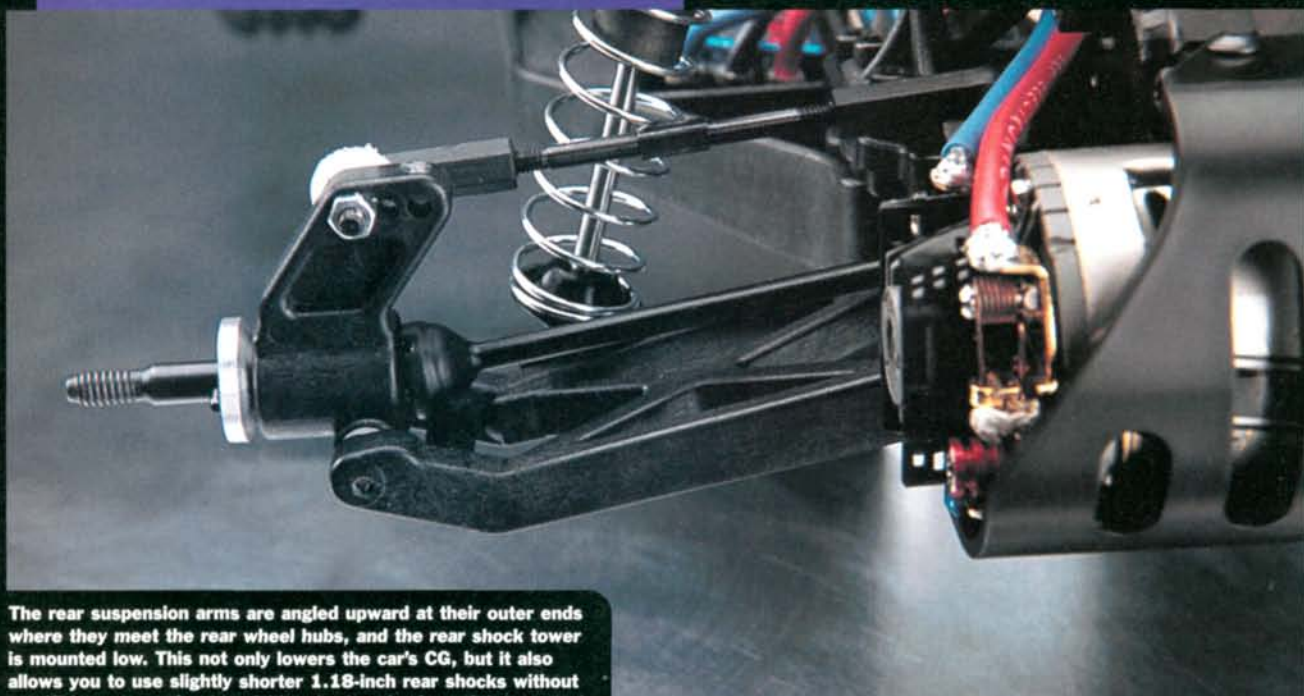


Below: the B4 has raised chassis sides for increased cornering clearance. Raising the sides also reduces the chassis' "footprint", so there's less contact with the track if the chassis scrapes a jump face or bottoms out on a landing.



Left: The B4's new 2.6:1 reduction Stealth tranny uses the same bulletproof ball diff as the RC10GT. The transmission assembly has been optimized into an ultra-compact package that is now an integral part of the chassis and suspension structure. The dual-disc slipper clutch features octagonal slipper pads and identical front and rear slipper plates to lower the parts count. The lighter slipper plates reduce the rotating mass.

Spur-gear changes require slipper clutch disassembly because the spur gear is sandwiched between two pressure plates. The spur gear has octagonal recesses on both sides, and the slipper pads are slightly oversize; they snap into the center of the spur gear, eliminating the need for finicky hand alignment. The rear motor guard is now made of plastic, so it rebounds from impacts and is lighter than the aluminum parts of previous RC10 buggies.



The rear suspension arms are angled upward at their outer ends where they meet the rear wheel hubs, and the rear shock tower is mounted low. This not only lowers the car's CG, but it also allows you to use slightly shorter 1.18-inch rear shocks without sacrificing suspension travel (the shorter shocks weigh less, too). The four suspension arms are the same length, and the suspension hinge pins are captured so that no E-clips are required. The hinge pins are made of a stronger steel so they can be machined to a smaller diameter to reduce their weight without sacrificing strength.

The rear hub carriers have two camber-link mounting options. Aluminum wheel supports are mounted on the drive axles behind the wheel pin. For subtle wheelbase adjustments, slide the hub carriers forward or backward on the hinge pins and rearrange the hub spacers. The B4 has a slightly longer wheelbase than the B3, and that increases its stability and brings it to the maximum legal length. To increase traction and push the B4 out to the maximum ROAR-legal width, the rear suspension has longer MIP CVD axles.

WAITING TO TAKE THE WHEEL

It looks as if the B4 has all the features that racers could ask for—and more. This buggy is more adjustable and easier to work on; it features a lower CG, and if looks are factored in, it's meaner than any other Team Associated buggy. We haven't wheeled the B4 yet, but Associated's team drivers tell us that it was worth the wait. We're looking forward to finding out for ourselves.

SOURCE GUIDE

TEAM ASSOCIATED (714) 850-9342; teamassociated.com.

track
test

1/10-SCALE ELECTRIC by Peter Vieira

Team Losi Triple-XT Sport



PHOTOS BY [illegible]



INSTANT OFF-ROAD EXCITEMENT

LAST YEAR, WE PICKED TEAM LOSI'S NITRO-POWERED TRIPLE-XNT SPORT as our truck of the year; that can only mean good things for Losi's newest electric ready-to-run (RTR), the Triple-XT Sport. After all, the XNT is essentially a nitro version of the XT. The XT platform has plenty of racing cred, with numerous national wins, and the RTR version matches the kit specs; the only difference is you don't have to build it. Great; we know the chassis will hook up, but that's only half of an RTR package. How about the electronics? Thankfully, the included gear is as good as the Triple-XT: JR Racing's brand-new XR2i computer transmitter sends its signals to a Z590 Torque Race servo and GM Racing V3R reversing speed control, and a 19-turn motor spools the XT up to speed. A painted body and glued tires are also in the mix, so my first run with the Triple-XT Sport is just a stick pack and eight alkalines away. I'm robbing batteries out of somebody else's radio as I type!

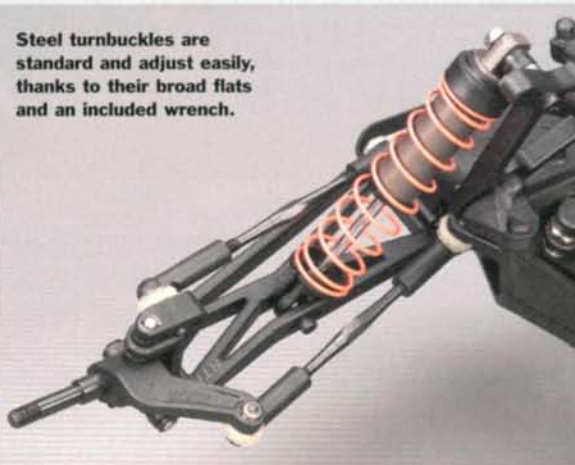


This view shows off the truck's smooth bottom (all the better to slide over obstacles) and its modular construction; the front and rear suspensions are easily removed as complete assemblies.

Below: Universal-joint drive axles, low-profile 2.43:1 transmission, hard-anodized shocks ... all the kit Triple-XT's features made it to the RTR.



Steel turnbuckles are standard and adjust easily, thanks to their broad flats and an included wrench.



THE XT CHASSIS IS LOSI'S MOST ELEGANT, WITH COKE-BOTTLE CONTOURS

DATA CENTER

VEHICLE TYPE Ready-to-run electric 2WD stadium truck

BEST BUYER Any RC truck fan, but especially those with racing plans

KIT RATINGS (poor, satisfactory, good, very good, excellent)

Instructions Excellent

Parts fit and finish Very good

Durability Very good

Overall performance Excellent

SPECIFICATIONS

MANUFACTURER Team Losi

MODEL Triple-XT Sport

DISTRIBUTED BY Horizon Hobby

SCALE 1/10

PRICE \$290 (varies with dealer)

DIMENSIONS

Wheelbase 11.4 in. (290mm)

Width 13 in. (329mm)

WEIGHT

Total, as tested 64.3 oz. (1,822g)

CHASSIS

Type Molded semi-tub

Material Plastic

DRIVE TRAIN

Type 3-gear transmission

Primary 20-tooth pinion/88-tooth spur gear

Transmission ratio 2.43:1

Final drive ratio 10.692:1

Drive shafts Steel universal joint

Differential Ball type, externally adjustable with steel outdrives

Bearing type Metal-shielded ball bearings

SUSPENSION

Type Lower H-arm with steel turnbuckle camber links

Shocks Bottom-filled, hard-anodized aluminum body with seal cartridge

WHEELS

Type One-piece 2.2-inch dish

TIRES (F/R)

Type 4-rib/step-pin, glued to wheels

ELECTRONICS

Transmitter JR Racing XR2i

ESC GM Racing V3R

Steering servo JR Racing Torque Race Z590M

Motor Speed 19

Battery Not included

KIT FEATURES

CHASSIS. Team Losi was the first to run molded chassis in competition and the first to refine the concept with raised sides for increased cornering clearance. The XT chassis is Losi's most elegant, with Coke-bottle contours (which are less prone to snagging on track barriers) and a few well-placed gussets that do their stiffening job without limiting the placement options for the electronics (not that you'll worry about that, since all the gear is factory-installed). A padded plastic strap secures the not-included stick pack, and foam spacers allow the pack to be positioned fore or aft on the chassis to suit weight-distribution needs. The main chassis is a single piece, but the front and rear sections are removable as separate assemblies, with the suspension, transmission and steering parts intact. It's a very easy truck to wrench on.

DRIVE TRAIN. The Triple-XT Sport's transmission has the usual XT features. It's a 3-gear, diff-on-the-bottom design, which is the accepted best layout for racing trucks. The differential is a slick-feeling ball unit, with steel outdrives and the very welcome feature of external adjustability; by slipping a hex wrench into the left outdrive slot, you can grab the diff screw and tighten or loosen the diff by turning the right rear wheel—no disassembly required. The transmission's top shaft and top gear are steel and are home to the XT's adjustable slipper clutch. The design uses broad aluminum pressure plates to pinch the spur gear between a pair of slipper

The stock gearing is well suited to the Sport's Speed 19 motor, and the dual-disc slipper does a great job of sparing the transmission from rough-track abuse.



pads, and it works very well. If you run on a loose track, you'll be able to find the clutch's sweet spot easily. A pair of universal-joint drive axles with steel shafts reach out to the rear wheels, and metal-shielded ball bearings keep friction at bay.

SUSPENSION AND STEERING. Any type of aluminum shock is an unexpected bonus on an RTR truck, but the Sport's shocks are some of the best in RC. They're Losi's race-proven "Hard Body" units, which feature hard-anodized bodies and a bottom-fill design that make them exceptionally easy to assemble and bleed properly. Of course, they're already filled for you, but when you're ready to rebuild the shocks (or experiment with different shock-fluid viscosities), you'll really appreciate Losi's shock design.

Long lower H-arms put the pinch on the shocks, and steel turnbuckle links set camber. The front camber links ride in front of the shocks, which are pushed back on the front arms as far as possible; this allows the shocks and front shock tower to sit about 5mm lower on the chassis. That's not a biggie for playing around, but in racing, the lower center of gravity that those millimeters help provide are a key piece of the Triple-XT performance puzzle.

The Triple-XT's steering system is both innovative and old-school; dual bellcranks with an integrated servo-saver are nothing new, but Losi's AGD (Advanced Geometry Design) tweaks the classic formula by angling the bellcranks back to match the angle of the steering arms. This eliminates bump-steer (the tendency for the steering angle of the front wheels to change as suspension is compressed). Again, not a big deal if you're just playing around, but if you want to race ...

BODY, WHEELS AND TIRES. You can get the Triple-XT Sport in three colors: yellow, indigo (blue) and graphite (a dark metallic silver). Only the main color changes; all three versions have the same screen-printed nose graphics. The print-and-paint finishing technique allows the Sport to have clear windows, which is a big plus in the appearance department. And in the convenience department, there's another big plus: pre-cut decals. Just peel and stick, no trimming required.

The Sport's rubber is good stuff, too; the front tires have a crisp 4-rib tread, and the rears combine step-pin outer knobs with a ladder-style center tread. The compound is firm-ish and a good match for play-around surfaces and "soft" tracks. The tires are perfectly glued to 2.2-inch dish wheels and are interchangeable with all Losi truck rims, of course.

ELECTRONICS & ACCESSORIES

JR RACING XR2i TRANSMITTER AND R125

RECEIVER. Team Losi includes an XR2 with the Triple-XT Sport sedan (reviewed last month), but the Triple-XT Sport gets the latest XR2i. It shares its case design and LCD screen with the XR3i and XS3 transmitters but uses budget-friendly AM internals. The 2i's digital trim levers and keypad give access to steering and throttle endpoints, subtrims and dual rates (as well as the usual trimming and servo-reversing functions).

JR RACING Z590M TORQUE RACE

STEERING SERVO. Sigh ... if only all RTR makers understood that some vehicles (such as trucks and especially 1/8-scale buggies) need steering servos that are more powerful than standard units! Team Losi gets it and specs JR's new metal-gear, 85 oz.-in. Z590M servo. It has the steering muscle a stadium truck needs, and it's quick, too: transit time is just 0.15 second, and that gives the Sport's steering a razor-sharp feel.



GM RACING V3R ELECTRONIC SPEED CONTROL

The V3R has what I feel is the best type of reverse activation: the first time you apply up-trigger, the V3R applies proportional brake only; reverse will not activate. To engage reverse, return the trigger to neutral, then push up-trigger again; now you have proportional reverse throttle. In either direction, the V3R accelerates the Sport's Speed 19 motor to max rpm smoothly.

SPEED 19 MOTOR. A high-performance truck deserves more power than a plain 540 motor can provide, so the Sport includes a higher-revving 19-turn motor to spin its wheels. The fixed-timing, bushing-equipped Speed 19 is still quite mild by modified motor standards, but it has a lot more oomph than the closed-endbell stockers many other electric RTRs make do with.

GROUND-UP INSTRUCTION MANUAL AND TOOLS.

The same square-one manual included with Triple-XT kit trucks is in the Sport's box, so you'll never be in the dark when making repairs or rebuilding the truck. There are also "Getting started" and

YOU'LL NEED

- 6-cell stick pack with Tamiya connector
- Charger
- 8 AA alkaline batteries

FACTORY OPTIONS

- Fury body set—item no. A-8026
- MIP CVD set—A-9922
- Hard-coated aluminum suspension balls—A-9940
- Aluminum slipper shaft—A-9930
- Graphite parts
 - Suspension arms F/R—A-9710/A-9810
 - Shock tower F/R—A-9722/A-9822
 - Kickplate, bulkhead and steering brace—A-9713
 - Rear pivot plate—A-9831
 - Chassis and brace—A-9905

*Partial list, many more options available

"Operation" guides to help absolute beginners run and maintain the Sport, and complete instructions for the V3R ESC and XR2i radio are included as well. You'll also find a few tools: a molded socket wrench for the wheel and shock nuts, "L" wrenches for the hex fasteners and a stamped open-end wrench for jam nuts.

PERFORMANCE

If you expect the Triple-XT Sport to perform as well as a kit Triple-XT, well, you're right! The Sport model gives up nothing to the kit truck (assuming you put the Sport's electronics into the kit), and that makes this an exceptional off-road machine. On a race-track or track-like surfaces, the Sport is at its best. All the efforts Team Losi made to give the truck a low center of gravity pay off in the form of a locked-in steering feel, minimal chassis roll and exceptional stability. The Sport's high-torque steering Z590M servo is a major component of the handling package as well; it's speedy and powerful, exactly what a high-performance truck needs to handle its best. The Z590M should also outlast the inexpensive servos typically included with other RTRs, since it uses metal gears instead of plastic parts.

The Sport's V3R speed control and Speed 19 motor propel the truck to 20mph, making it one of the fastest RTR electric trucks available. If you'd like to go faster, the Sport's transmission can handle just about any motor you care to strap in, and the V3R ESC is rated for motors down to 15



ALL THE FEATURES THAT MAKE THE TRIPLE-XT A HIGH-PERFORMANCE RACER ALSO MAKE IT A FUN THRASHER

LIKES

- Looks, feels and drives like a Triple-XT you built yourself.
- Body arrives painted, trimmed and mounted.
- Excellent electronics package.

After track testing, I gave the Sport a thorough backyard-bash session. All the features that make the Triple-XT a high-performance racer also make it a fun thrasher, with the exception of the truck's low, racy stance. For climbing over rocks and roots, the Sport needs more ground clearance, which I provided by sliding the shocks' preload collars down a few millimeters to jack up the chassis. While the Sport will never challenge a monster truck when it comes to crawling over big obstacles, it handles all the smaller stuff well.

THE VERDICT

The Triple-XT Sport is an exceptionally well-put-together RTR. The simple fact that it is a genuine, fully adjustable Triple-XT (albeit one manufactured overseas) is reason enough to give the Sport a look, but it's the finishing touches that really make it a must-drive. All the stuff you'd likely upgrade to is already installed: the ESC is very good, the steering servo is ready for racing and the radio set has all the adjustments you need to tailor the handling to your liking and match the truck to the track. And if you buy an RTR for convenience, you'll appreciate the painted, trimmed and mounted body, peel-and-stick decals, well-glued tires and filled shocks. Team Losi can't build in all of the Sport's pluses without it costing more than a truck without the goodies. But do a little math, and you'll discover that upgrading a cheaper truck to an XR2i radio instantly puts you over the cost of the Sport—and you still wouldn't have all of the Sport's features. Sure, the Sport's more expensive than other trucks, but I'd say it's a steal.

DISLIKES

- Price might be a dislike, since the Sport is the most expensive truck in its class. But it's also the best-equipped.

Dynamite Dyna-Fun 3000 pack

The bigger the number, the longer the run time; it's as simple as that, and "3000" is about as big as battery numbers get. Dynamite's budget-friendly NiMH stick pack has enough juice to run the Sport for a solid 14 minutes of bashing around, and it uses flexible, silicone-insulated wires to attach its Tamiya-type connector.



SOURCE GUIDE

DYNAMITE, GM RACING, JR RACING AND TEAM LOSI distributed by Horizon Hobby Inc. (800) 338-4639; horizonhobby.com; teamlosi.com.

THE COMPETITION*

	TRANSMITTER	SPEED CONTROL	MOTOR	SHOCKS	BEARING TYPE	GLUED TIRES	PRICE***	REVIEWED
Associated T3 RTR	Ace Jaguar	LRP Runner ESC	20-turn	Aluminum, blue-anodized	Metal bushings	Yes	\$220	1/01
DuraTrax Evader ST	DuraTrax by Futaba	DuraTrax Sprint ESC	20-turn	Aluminum, threaded-body	Ball bearings	Yes	\$190	2/02
Kyosho Ultima ST Sport	Kyosho Perflex	Mechanical	27-turn	Plastic	Metal bushings	Yes	\$170	8/00
Team Losi Triple-XT Sport	JR Racing XR2i	GM Racing V3R ESC	19-turn	Aluminum, hard-anodized	Ball bearings	Yes	\$290	5/03
Traxxas Rustler RTR	Traxxas TQ	Traxxas XL-1 ESC	20-turn	Plastic	BB/bushings**	No	\$170	2/95
XTM Racing Baja Bullet	Hitec Lynx Sport	XTM Sportsman ESC	27-turn	Plastic	Ball bearings	Yes	\$170	5/02

*All trucks include plastic chassis and painted body. **Ball-bearing transmission, bushed axles ***Varies with dealer

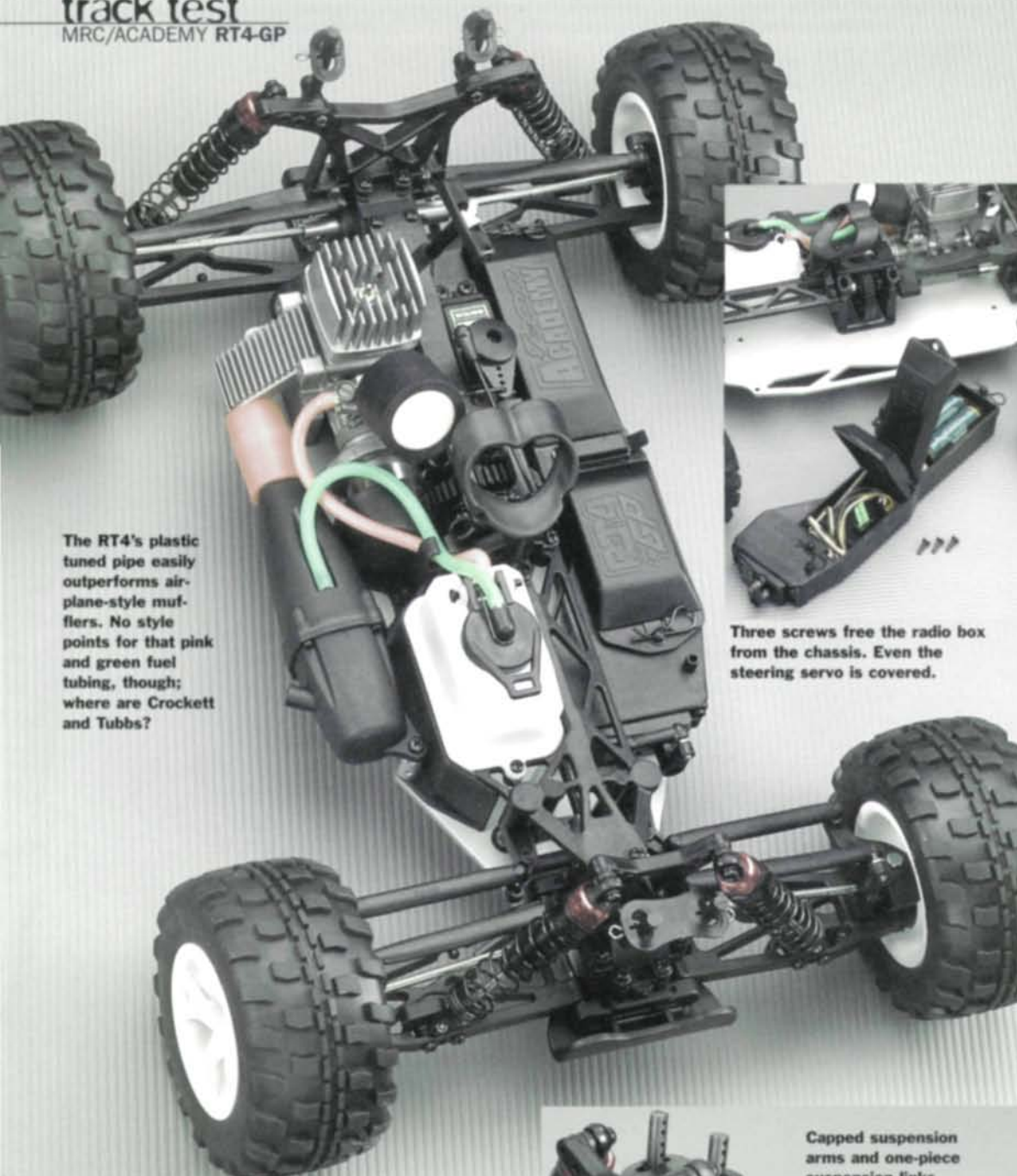
MRC/Academy RT4-GP





backyard barbecue

MRC'S ACADEMY LINE is full of electric vehicles, but the latest Academy graduate is destined for the nitro wars. The new RT4 GP combines popular features (including full-time, shaft-driven 4-wheel drive, a pull-start .15ci engine and long-travel suspension) with unexpected touches such as a heavy-duty 3mm chassis and a 2-needle slide carburetor. Like its competition, the RT4-GP is ready to run with a painted, stadium-style body and has genuine Futaba electronic gear installed in its fully enclosed radio box. I put nearly a full gallon of nitro through the RT4 to see whether it could satisfy a hearty appetite for backyard fun. Here's what I found.



The RT4's plastic tuned pipe easily outperforms air-plane-style mufflers. No style points for that pink and green fuel tubing, though; where are Crockett and Tubbs?



Three screws free the radio box from the chassis. Even the steering servo is covered.

The single-speed drive train is spun by a plastic spur gear, and a plastic brake disc does the stopping.



Capped suspension arms and one-piece suspension links increase the RT4's durability. The plastic-body shocks work well and are filled at the factory.

DATA CENTER

VEHICLE TYPE Ready-to-run, nitro-powered 4WD off-road truck

BEST BUYER First-time nitro off-roaders and anyone who wants a fast, bash-around vehicle

KIT RATINGS (poor, satisfactory, good, very good, excellent)

Instructions Good

Parts fit and finish Very good

Durability Very good

Overall performance Very good

SPECIFICATIONS

MANUFACTURER Academy

MODEL RT4-GP

DISTRIBUTOR MRC Inc.

SCALE 1/10

STREET PRICE \$329

DIMENSIONS

Wheelbase 11.81 in. (300mm)

Width 12.76 in. (324mm)

WEIGHT

Total, as tested 67.52 oz. (2,100g)

CHASSIS

Type Double-deck plate

Material 3mm aluminum with plastic upper deck

DRIVE TRAIN

Type Full-time, shaft-driven 4WD

Primary 13T clutch bell/48T spur gear

Transmission ratio 3.69:1

Drive-train ratio 3.18:1

Final drive ratio 11.74:1

Drive shafts (F/R) Dogbones

Differentials Bevel gear

Bearing type Metal-shielded ball bearings

SUSPENSION

Type (F/R) Lower A-arms/fixed-length plastic camber link

Shocks Plastic-body, oil-filled

WHEELS

Type One-piece, 5-spoke

TIRES

Type Off-road tread with foam inserts

ENGINE AND ACCESSORIES

Engine Academy RT15S pull-start

Carburetor 2-needle slide carb

Exhaust Plastic tuned pipe

Fuel tank 115cc primer-less

THE NEW RT4-GP COMBINES POPULAR FEATURES WITH UNEXPECTED TOUCHES.

KIT FEATURES

CHASSIS. The RT4-GP rides on a 3mm, stamped-aluminum main chassis plate. The chassis has stamped square openings on the front and rear to accommodate the front and rear bulkheads. These chassis holes allow the lower bulkhead to be keyed into the chassis plate and mounted flush with the bottom of the chassis, thereby providing a low center of gravity (CG). A fully enclosed radio box shields the RT4's receiver and receiver battery pack from the elements. The receiver and battery compartments (as well as the on/off switch) include hinged snap-tight lids that are secured with body clips. For easy maintenance, the entire radio-box assembly is easily removed by unscrewing three screws on the lower chassis plate, and a grab handle on the plastic upper-deck brace makes it easy to hold the RT4 and blip the throttle without touching any hot parts.

DRIVE TRAIN. A shaft-driven, full-time 4WD system propels the RT4-GP, with front and rear gear differentials for traction assistance. The drive train's plastic spur gear and aluminum clutch bell spin the diffs via center dogbone drive shafts. Each differential contains a metal ring and pinion gear with two internal spider gears. A full set of metal-shielded ball bearings allows the drive train to spin smoothly without power-robbing friction. Long steel dogbones at all four corners transfer the drive train's power to stub axles with 12mm hubs. A plastic disc brake with an unpadded metal caliper brings the RT4-GP to a halt. A steel disc is the preferred choice; we'll see how well the plastic disc holds up to testing.



The cast heat sink isn't up to the cooling demands of the hard-working, otherwise very well-equipped RT15S engine; that's a 2-needle slide carb on there. The RT4's chassis-mounted grab handle is another nice touch.

ENGINE AND ACCESSORIES. The RT4-GP's RT15S engine is a 3-port, small-block, .15ci pull-start design that features an aluminum piston and chrome-plated brass sleeve—better known as “ABC” construction, for “aluminum, brass and chrome.” Although more expensive to manufacture than nickel-plated sleeves, chrome sleeves last longer. Additional engine features include dual crankshaft bearings and a 2-needle slide carburetor (an unexpected bonus, since most RTRs include rotary carbs), but only a small, cast-aluminum cooling head is supplied; given the workout the engine is certain to get, the RT4 deserves a taller, machined head. An aluminum flywheel is mounted on the RT15S's crankshaft, and a 2-shoe clutch with a wraparound spring engages the drive train. A large, single-element foam air filter is zip-tied to the carb, and the truck's 115cc primer-less fuel tank has a lid-mounted pressure fitting and an in-tank stone filter.

SUSPENSION AND STEERING. Long plastic lower H-arms on all four corners provide the RT4-GP with plenty of suspension travel. Fixed-length, molded-plastic upper camber links are included, and although the fixed plastic links aren't adjustable, the links provide goof-proof camber settings and are more durable than threaded tie rods. A dual-bellcrank steering rack with an integrated, adjustable-tension-spring servo-saver transmits the steering servo's inputs while protecting its gear train. The front suspension's caster setting can be set to 17, 14.5, or 12 degrees by swapping the caster plates that are included with the kit. Adjustable down-stop screws incorporated in the suspension arms allow easy suspension down-stop (or “droop”) adjustments with the turn of a wrench. Rear anti-squat is also adjustable from 1 to 2 degrees by installing either of the included plates.

Plastic-body, oil-filled shocks take care of the damping duties; two-hole pistons, rubber volume-compensating diaphragms and protective O-ring dust caps are all standard equipment. The shocks operate smoothly and come filled with 50WT silicone shock oil.

BODY, WHEELS AND TIRES. The RT4's stadium-style body arrives fully trimmed and painted for you, in your choice of bright blue or red. A full decal sheet is included, but take your time sticking the large side graphics into place; it's a good idea to use a hair dryer to help the decals conform to the body's curves and panel lines. White, split-spoke, 2.2-inch wheels with large-lug, soft rubber tires and foam inserts are included, but MRC leaves the task of gluing the tires to the rims to you. That will add a few minutes to your prep time, but look on the bright side: if you want to swap out the stock tires for aftermarket shoes before your first run, you'll have that option.

ELECTRONICS & ACCESSORIES

FUTABA T2PH TRANSMITTER WITH S3003 SERVOS. Futaba's newest 2-channel AM transmitter has a comfortable feel and offers servo-reversing as well as steering and throttle-trim-adjustment knobs and an LED battery meter. The T2PH's range is excellent and allowed me to drive the RT4-GP nearly out of sight. Although the T2PH does not feature endpoint adjustments, the Academy RT4-GP's throttle linkages and steering servos have built-in servo-savers that absorb excess servo throw.



FUTABA S3003 THROTTLE AND STEERING SERVOS. The ultra-reliable S3003 plastic-gear servos have plenty of yank to steer the truck and control throttle duties. With 56.8 ounces of torque and a 0.19-second transit time, these Futaba S3003 standard servos perform well while keeping the RTR package price low.

TOOLS AND MANUAL. Academy includes hex wrenches, extra screws, shock fluid, a four-way wrench and extra shock-preload spacer clips. The instruction manual guides RT4-GP owners clearly through each step to prepare the truck for action, but it doesn't include step-by-step building instructions for owners who need to replace or maintain the vehicle. The exploded diagram of the truck is nice, but none of the parts are labeled in the diagram, and this makes it difficult to search for a specific part number.

YOU'LL NEED

- Nitro fuel.
- Glow starter.
- Tire glue.
- 12 AA batteries.

FACTORY OPTIONS

- Slipper-clutch set—item no. RG-T001
 - Universal drive-shaft set—RG-T004
 - Hard-anodized chassis—RG-T015
 - Aluminum wheel hubs—RG-T05
- * Partial list; more options available

PERFORMANCE

In a perfect world, RTRs would arrive with their engines fully broken in; it's so difficult not to rip on that trigger as soon as the engine starts! Rather than detonate a brand-new engine, I wisely chose to break in the RT15S mill by using up several tanks of fuel pattering around my driveway.

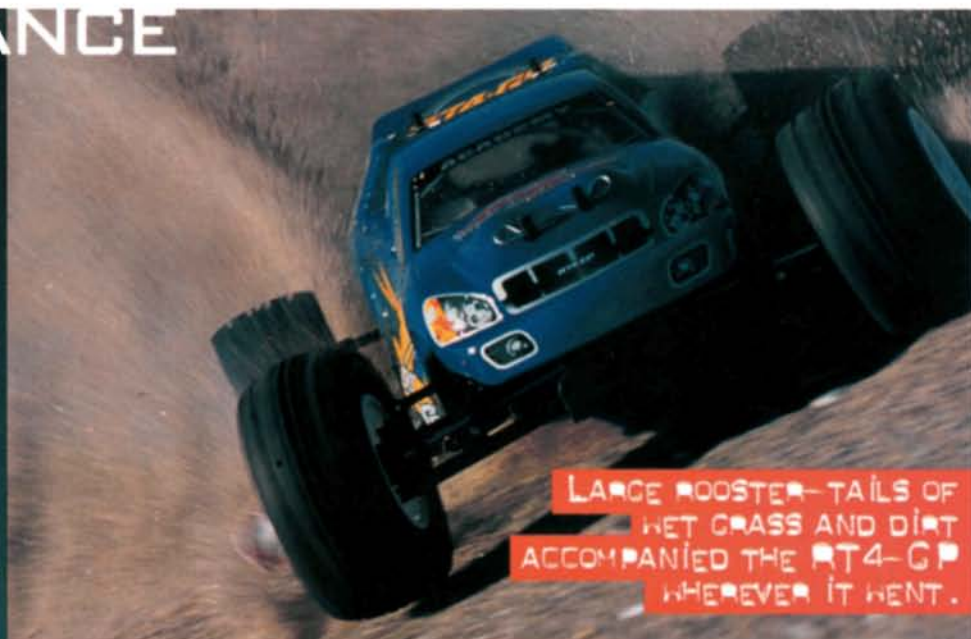
When I had completed the break-in process, I packed up my RT4-GP and a skateboard ramp and headed to a nearby college soccer field for some wheel time. The well-used soccer field—a tapestry of grass, dirt and mud swatches—provided the ideal venue to explore the RT4-GP's multi-surface capabilities.

After firing up the engine with just two tugs of the starter cord, I set the truck loose and buried the throttle. Given a generous throttle finger, the truck shoots off with all four tires clawing for traction and quickly approaches its terminal velocity with plenty of smoke billowing from the pipe. The RT15S engine is easy to tune and idles well when tuned properly, but a slight tweaking really wakes it up. After adjusting the high-speed needle for best top-end performance, I tweaked the low-end needle, and from that point on, acceleration became much more impressive. Large rooster-tails of wet grass and dirt accompanied the RT4-GP wherever it went, and before long, a crowd of college kids had gathered to cheer the truck on. Large open fields provide perfect “drag strips” for high-speed passes with any nitro vehicle, so I set the RT4-GP loose for some straight-line passes. After several quick trips up and down the field, the RT15S engine continued to idle reliably and provide plenty of exhaust smoke at high speed, but combustion heat overwhelmed its small, cast cooling head; the engine repeatedly registered a blistering 340 degrees Fahrenheit on my Exergen temp gun. I richened the high-end needle to help cool the engine, but the best fix is a more efficient heat-sink head; MRC says one is in the works.

With my speed runs complete, I decided to make a few high-speed approaches to the skateboard ramp to see how well it would handle the air time. The RT4-GP flies as well as it speeds; in-air corrections are easily made with throttle and brake inputs. Speaking of brakes, the small plastic brake disc showed only average wear and tear and did not seem to fade, even during extended play. The full-time 4WD system provides excellent grip on nearly any surface, and its traction allowed me to enjoy holding the throttle nearly wide open through large sweeping turns without fear of spinning out. I expected the RT4's Futaba S3003 standard servo to be strained by the truck's meaty tires and 4WD system, but it did a good job of holding the truck on course through twisty maneuvers, as the RT4-GP's suspension soaked up ruts with only a little body roll. After nearly 3/4 gallon and a few concerned glances from the college groundskeeper, I called it a day with my RT4-GP still in perfect working order.

THE VERDICT

The Academy RT4-GP is a handful of fun for anyone who wants an all-around, nitro-powered basher. After spending several weekends running the RT4-GP, I've grown to enjoy its reliable engine, durable drive train and “I dare you to push harder” traction capabilities. What could be more fun than taking advantage of a sunny afternoon to tear up an open grass field with a nitro-powered 4WD truck? The RT4-GP will handle almost anything you can throw at it and will toss plenty of nitro speed and action right back at ya.



LARGE ROOSTER-TAILS OF WET GRASS AND DIRT ACCOMPANIED THE RT4-GP WHEREVER IT WENT.

LIKES

- Easy to tune, reliable RT15S engine.
- Exciting performance on nearly any surface.
- Sealed radio box.

DISLIKES

- Instructions do not include step-by-step building steps.
- Tires aren't glued at the factory.
- The engine's small, cast heat-sink head doesn't cool efficiently.

Sidewinder 20% Backyard Basher Fuel

Sidewinder's Backyard Basher fuel provides my engine with plenty of turf-tearing power while offering an extra level of lean-run protection, thanks to its 16-percent lubricant blend. With Sidewinder's juice in the fuel tank, the RT4-GP's pull-start engine fired up quickly every time.



SOURCE GUIDE

FUTABA distributed exclusively by Hobbico/Great Planes Model Distributors Co. (800) 682-8948; futaba-rc.com.

MRC/ACADEMY (732) 225-2100; modelrectifier.com.

SIDEWINDER FUELS distributed by Morgan Fuel (800) 633-7556; morganfuel.com.

THE COMPETITION

	DRIVE TRAIN	CHASSIS	ENGINE	SHOCKS	BEARING TYPE	PAINTED BODY	RADIO	PRICE*	REVIEWED
DuraTrax Overdrive ST	Shaft 4WD	2mm aluminum	.17 pull-start	Plastic	Shielded bearing	Yes	DuraTrax by Futaba	\$350	5/02
HPI Nitro RS4 MT	Shaft 4WD	2mm aluminum	.15 pull-start	Plastic	Shielded bearing	No	HPI TX-2	\$350	7/00
Megatech Tempest Gladiator	Shaft 4WD	2mm aluminum	.16 pull-start	Aluminum	Shielded bearing	Yes	Hitec Lynx Sport	\$380	10/02
MRC/Academy RT4-GP	Shaft 4WD	3mm aluminum	.15 pull-start	Plastic	Shielded bearing	Yes	Futaba T2PH	\$329	5/03
OFNA Monster Pirate	Shaft 4WD	3mm aluminum	.21 pull-start	Aluminum	Shielded bearing	No	Airtronics Blazer	\$490	6/02
XTM Racing Baja Outlaw	Shaft 4WD	2mm aluminum	.15 pull-start	Plastic	Shielded bearing	Yes	Hitec Lynx Sport	\$300	1/02

*Varies with dealer

Tamiya TL-01B Baja King

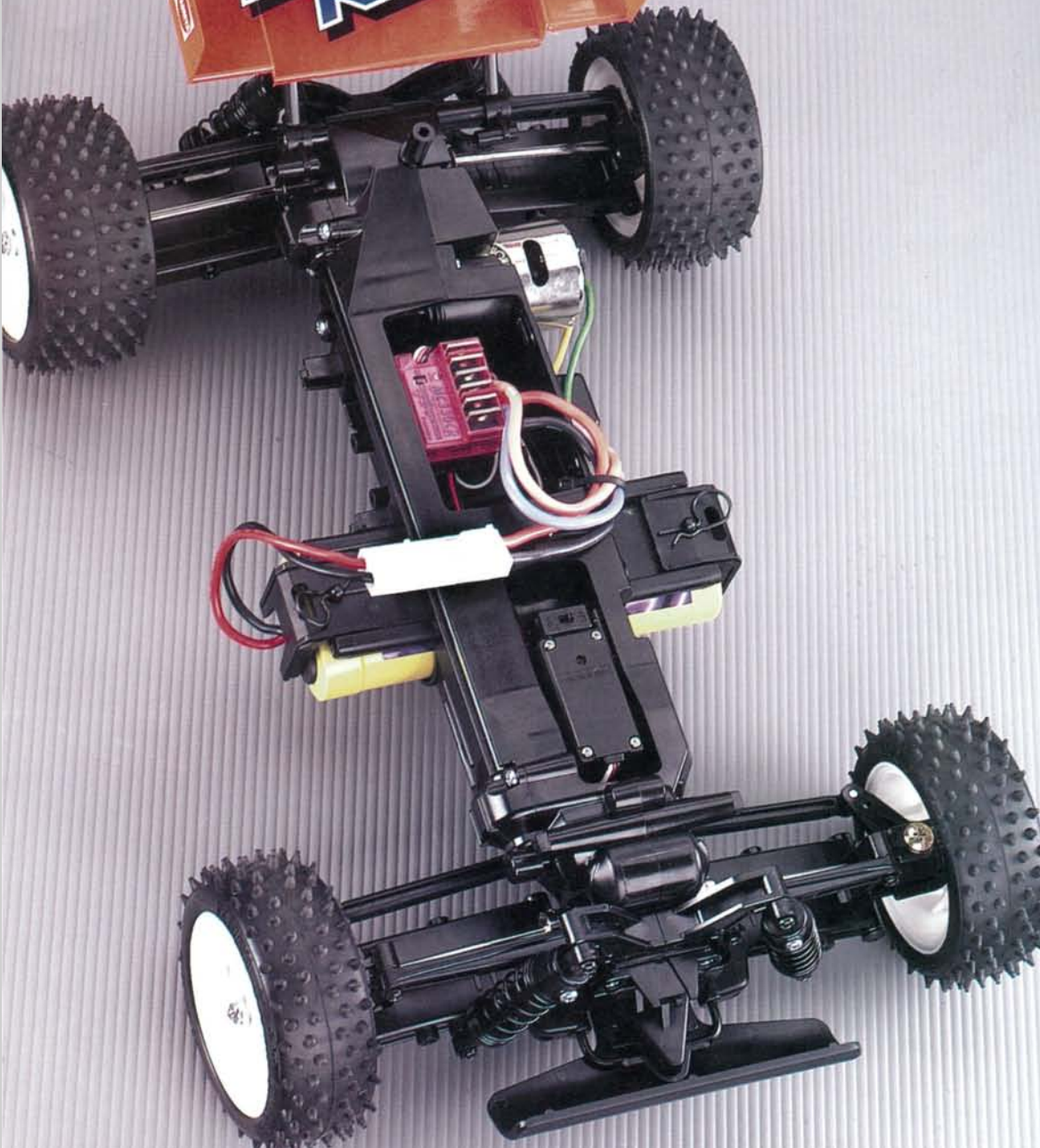


THERE'S NO MISTAKING THE TAMIYA BAJA KING for any other buggy: with its retro-modern "tube-frame" body, motocross-style "exhaust pipes" and spikier tires than Lord Humongous's cod piece (you'll have to rent "The Road Warrior" for that reference), Tamiya's newest 4WD off-roader is sure to get a few double-takes at the track. The Baja King is the second "Baja" model to be built on Tamiya's sedan-based TL-01B chassis (the Baja Champ was the first). Its simple, tough and inexpensive design is easy to build and a blast to drive, making the Baja King a terrific kit for first-time builders and for anyone looking for a nearly indestructible play machine. Does that sound like you?



B
is for
Buggy

BAJA
KING



Super-tough C-carriers and steering knuckles from Tamiya's Manta Ray/TA-series cars give the King all the durability it needs to shake off first-timer abuse.



THE BAJA KING USES THE SAME MONOCOQUE-STYLE MAIN CHASSIS AS TAMIYA TL-01 SEDANS

DATA CENTER

VEHICLE TYPE 4WD electric buggy, entry-level kit

BEST BUYER First-time builders and anyone looking for a super-tough play car

KIT RATINGS (poor, satisfactory, good, very good, excellent)

Instructions Excellent

Parts fit and finish Excellent

Durability Excellent

Overall performance Good (very good, if you forgive the bouncy ride)

SPECIFICATIONS

MANUFACTURER Tamiya

MODEL Baja King

SCALE 1/10

PRICE \$95

varies with dealer

DIMENSIONS

Wheelbase 10 in. (254mm)

Width 9.7 in. (246mm)

WEIGHT

Total, as tested 53 oz. (1,503g)

CHASSIS

Type Monocoque-style

Material Molded plastic

DRIVE TRAIN

Type Enclosed gearbox

Primary 32-tooth spur gear/19-tooth pinion

Transmission ratio 4.45:1

Final drive ratio 7.49:1

Drive shafts Steel dogbones

Differentials Bevel gear
Bearing type Plastic and metal bushings

SUSPENSION

Type Lower H-arm with fixed camber links

Shocks Friction damper with coil spring

WHEELS

Type One-piece, 2.2-inch plastic

TIRES

Hard-rubber spike tread

ELECTRONICS

Radio Not included

Speed control 3-step mechanical

Servos Not included

Battery Not included

Motor Mabuchi 540 stock

The Baja King's short, touring-length friction shocks are holdovers from the TL-01 sedan. Fixed camber links make the suspension settings goof-proof.

KIT FEATURES

CHASSIS. The Baja King uses the same monocoque-style main chassis as Tamiya TL-01 sedans; the TL-01B version simply adds longer suspension arms to the formula, and that's what earns it the "B" for "buggy." The chassis is split along its centerline—clamshell-style. The steering servo and transmission gears are enclosed by the halves when assembled, and the shock towers, suspension mounts and gearboxes are integrated into the chassis; this greatly reduces the Baja King's build time and parts count. In keeping with the King's play mission, the chassis accepts only stick packs; the pack slides through a slot in the chassis, and a pair of "outriggers" holds it with body clips.

DRIVE TRAIN. A shaft-driven, full-time 4WD system turns the Baja King's spiked tires, and it's a typically rugged setup. Tamiya's time-tested 5-gear differentials at both ends are linked to the stub axles by plated-steel dog-bones. The front and rear gearboxes are joined by a 5mm steel shaft that is far stronger (and far heavier) than necessary—but better to be too strong than not strong enough! Bevel gears link the shaft to the gearboxes, and the rear gearbox is home to the included 540 stock motor. Three motor positions are molded into the chassis and are labeled to match pinion size—19, 21, or 23 teeth. The Baja King includes a 19-tooth pinion for the highest final gear ratio, and that's a good move for an off-road car. Plastic bushings are used throughout, but I upgraded to a set of Acer Racing ball bearings.



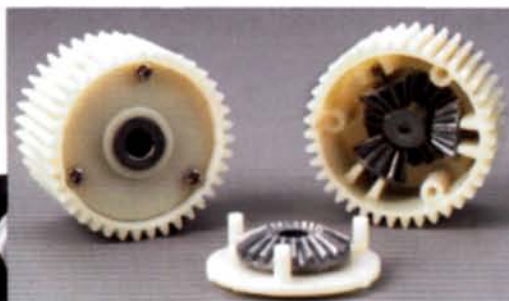
INCLUDED ELECTRONICS. Like so many Tamiya kits, the Baja King includes a closed-endbell, 27-turn 540 motor and a 3-step mechanical speed control. I opted for an electronic speed control instead (see "Building and setup tips"), but I did install the kit motor, which is a good match for the car.

SUSPENSION AND STEERING. Here's where Tamiya's TL-01 chassis becomes a TL-01 "B." The Baja King uses two-piece suspension arms like any TL-01, but the "B" arms are much longer for an appropriately wide off-road stance. Screw-type hinge pins hold the rear uprights and front

C-hubs, and the steering arms are held by the same thick, steel kingpins that have been Tamiya staples since the Manta Ray. One-piece plastic links hold the camber settings and make it impossible to goof up the suspension geometry during assembly. The steering system is also simplified; the servo-saver is built into the steering servo's output arm, and fixed links reach out to the steering arms to aim the front wheels. All the linkages pivot on smooth-shouldered screws that capture the parts, so nothing pops off in a crash. The parts material is just about crash-proof as well; there's plenty of impact-dissipating flexibility to keep the Baja King rolling through first-timer abuse.

Now for the shocks, which are better described as "spring holders." They rely on the resistance of a screw head being pushed and pulled through a

greased rubber sleeve for damping, which is negligible. The shocks are fine for the TL-01's original sedan mission, but the extra leverage of long buggy arms and the bigger whacks the car is sure to encounter when off-roading are too much for the short, undamped shocks, which bottom out frequently.



Above: Tamiya's classic 3-spider-gear differentials are just about indestructible, as is the rest of the Baja King. **Left:** a massive 5mm-steel drive shaft joins the front and rear gearboxes via bevel gears. I replaced the kit's plastic bushings with Acer Racing ball bearings.

Make no mistake, the Baja King can take it all day long, but it's hard not to wince when the chassis slaps the ground on bumps and jumps.

BODY, WHEELS AND TIRES. The most imaginative RC bodies are found in Tamiya kits, and the Baja King is another fine example. Can you name another buggy body that has an exposed tube frame, dual exhaust pipes (non-functional, of course) and such a funky, angular look? Decals are provided to create the carbon-fiber-between-the-chassis-tubes look, and painting is simple; just pick a color for the side pods and wing, and then spray the rest silver.

You might recognize the Baja King's wheels and tires from other Tamiya buggies. The spiky tires are molded of very stiff rubber (so they should last quite a while), and they snap onto their one-piece wheels so firmly that you don't need to glue them. If you'd like to try stickier rubber later, all popular buggy tires will fit the King's 2.2-inch wheels.

BUILDING & SETUP TIPS

If you haven't built a kit before, the Baja King is a terrific choice for that first building session. Tamiya's instructions are excellent, as always, and features such as fixed-length suspension links and preset gear mesh make the assembly process just about goof-proof. Here are a few tips to help building go even more smoothly.

STEP 2. Before you install the steering servo-saver, you must "center" the steering servo. To do this, follow your radio set's instructions. (Nutshell version: power up the transmitter, receiver and steering servo. Make sure the servo operates properly, set the transmitter's steering trim for "neutral," then shut everything off.) Once the steering servo has been installed, you won't be able to access it without a lot of disassembly, so don't skip this important step!

STEPS 4, 7 TO 9. A dab of grease on each gear is plenty; as the gears turn, the grease will be distributed evenly. Extra grease just adds drag.

STEP 11. To install an electronic speed control, just follow the instructions. But to install the included mechanical speed control, open its bag now and use the separate instruction sheet you'll find inside; it replaces "Step 11" in the manual.

STEP 13. Don't forget to install the O-rings in the outriggers as shown (I mention this because I always miss them!).

UPGRADING THE BAJA KING. The Baja King needs only two things to be the perfect off-road play machine: ball bearings and oil shocks. If you can, buy bearings with the kit so you can install them as you build; if you purchase them later, you'll need to disassemble virtually the entire car to install them. Oil shocks, however, can be installed easily anytime. Tamiya's CVA Mini Shocks are the most economical choice; they cost about \$20.

YOU'LL NEED

- 6-cell stick pack
- Charger
- Radio system with two servos, or one servo and an electronic speed control
- Polycarbonate-compatible paint

FACTORY OPTIONS

- CVA Mini Shock set—item no. 50519
- Low-friction aluminum shock set—53155
- Manta Ray ball-differential set—53070
- One-way front differential—53200
- Lightweight carbon drive shaft—53323
- Quick-release battery holder—53346
- Ball-bearing set—53292

Partial list, more options available

PERFORMANCE

Before the real testing began, I drove the Baja King into our office hallway to trim out the radio. But the King felt so quick on the trigger that I just had to see what it could do. It tore down the hallway much faster than I had expected—especially for a car with kit-motor power. I radar'd the buggy right there in the hallway: 20.2mph! Back in the April 2002 issue's "Budget Blasters," we clocked a Baja Champ at 17.5mph. The only difference between the Champ and my King (other than the bodywork) was a set of Acer Racing bearings. But what a difference!

Out of the backdoor and onto the dirt of the local ball field, the Baja King showed classic full-time 4WD handling: on-power understeer with throttle-controlled drift, once I broke the car loose with a little brake. On the loose infield soil, the King's spiky tires churned up a nice dust trail, and the car looked as though it was winning the Baja 5000 as the chassis rolled onto the outside shocks in the turns, spraying dirt from all four tires. Turn-in was super quick; the steering system's long servo arm yanks the wheels over hard, giving the Baja King much more responsive steering than I expected from a play car with an inexpensive servo.

The ball field's smooth dirt wasn't a challenge for the Baja King, so I set up our portable skateboard ramps for a little hang time. Ka-jong! You'll get used to hearing that sound as the Baja King bottoms out and rebounds over jumps, and even relatively small bumps can cause chassis slap. The King's shocks really need more damping to prevent such easy bottoming, but the chassis shrugs off the hard landings and keeps chugging. I burned off the rest of the pack climbing up and over anything the King's tires could find—just about anything that isn't hard and slick. When the car at last slowed to an un-fun speed, I checked my watch for the total run time: 12 minutes on a Trinity Time Warp 1900 pack. That makes the Baja King fast and frugal—exactly the combo you want for play days.

THE VERDICT

I was already a fan of the Baja Champ, so when Tamiya re-skinned the TL-01B chassis as the Baja King, I already knew it was a winner. But I had forgotten just how much fun it is! Just over 20mph from a 540 motor is amazing, and the Baja King's take-it-all toughness makes it a perfect choice for a day of no-maintenance off-roading. Sure, I'd like to see oil shocks as standard equipment, but it's hard to complain when the whole kit costs less than \$100. You might even be able to add Tamiya's CVA shock set to the bill and still land at an even C-note!

DISLIKES

- Stock shocks don't provide enough damping to prevent harsh bottoming over jumps and bumps.

SOURCE GUIDE

ACER RACING (310) 472-8090;
acerracing.com.

FUTABA; exclusively distributed
by Hobbico/Great Planes
Model Distributors (800) 637-
7660; futaba-rc.com.

TAMIYA AMERICA
(800) 826-4922; tamiya.com.

TRINITY PRODUCTS
(732) 635-1600;
teamtrinity.com.



THE BAJA KING'S TAKE-IT-ALL TOUGHNESS MAKES IT A PERFECT CHOICE FOR A DAY OF NO-MAINTENANCE OFF-ROADING.

Futaba T2PHKA Magnum Junior radio set

I'm a big fan of the Magnum series, especially the "Junior" model, which adds steering dual rate and adjustable steering and throttle endpoints to the Magnum's comfortable case design. The radio is available with a variety of servo and ESC combinations, including the excellent MC230 reversing ESC. I installed the next-step-up MC330 ESC and the Junior's included S3003 servo.



Additional items used to complete the Baja King

Futaba MC330 ESC

Futaba S3003 servo

Trinity Time Warp 1900 pack

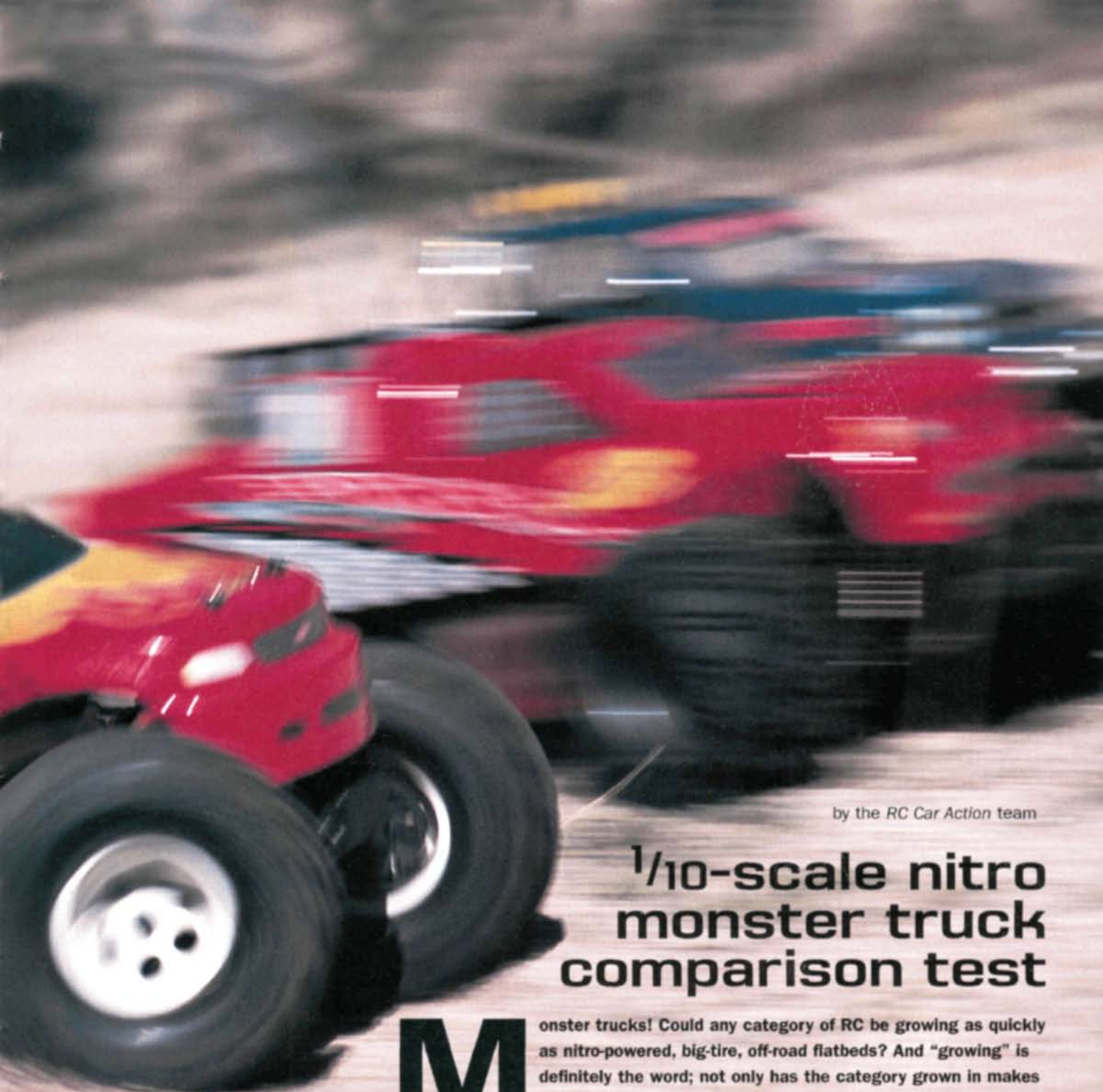
Acer Racing bearing set

WHAT MAKES A MONSTER?

The monster-truck category encompasses a number of vehicle configurations; $\frac{1}{8}$ and $\frac{1}{10}$ scale; 2WD and 4WD; small-block and big-block; independent suspension and solid-axle are just a few of the ways you can subdivide the category. But when it comes to buying a truck, we doubt that many of you say "I only want to look at 2WD, $\frac{1}{10}$ -scale, small-block trucks" or narrow your search in similar ways. We figure you just want something that's $\frac{1}{10}$ scale and looks like a monster truck. So for this shootout, we simply included every truck that is $\frac{1}{10}$ scale, nitro-powered and has monster-proportion, chevron-style tires. We excluded the Traxxas T-Maxx because we feel it competes much more directly with $\frac{1}{8}$ -scale trucks. Likewise, Kyosho's Mad Force was out, but the smaller MegaForce is in. All the trucks are listed alphabetically by brand. Go to it!



MONSTER



by the RC Car Action team

1/10-scale nitro monster truck comparison test

Monster trucks! Could any category of RC be growing as quickly as nitro-powered, big-tire, off-road flatbeds? And "growing" is definitely the word; not only has the category grown in makes and models, but the size and price tags of the largest monsters have grown, as well. What's a low-on-funds monster fan to do? Fear not, ye of little dollars; there are plenty of easier-on-the-wallet, 1/10-scale offerings available to mollify your monster madness. This class has lots of variety: small-blocks, big-blocks, 2WD, 4WD—something for every taste and terrain. We pounded on the latest monster machines from CEN, DuraTrax, Kyosho, Megatech, OFNA and Traxxas to see how they'd stack up.

MASH!

PHOTOS BY WALTER SIDAS, GEORGE M. GONZALEZ AND PETE HALL

CEN FUN FACTOR MT2

The 4WD Fun Factor MT2 package is quite complete; very little needs to be done to get it running, and it's well-equipped with features for off-road bashing. The plush suspension easily soaks up the rough stuff and keeps the large-diameter tires in touch with the ground; it's a good thing it does because the NT-16 engine mated with a 2-speed tranny provides a ton of power and speed. CEN also designed the MT2 to have plenty of adjustability by incorporating a pivot-ball suspension.



QUICK SPECS

- PRICE \$300
- ENGINE NT-16
- STARTER TYPE Pull-start
- BOX-TO-BACKYARD TIME 20 min.
- TOP SPEED 38.2mph
- NOT INCLUDED Fuel; 12 AA batteries; glow-starter; tire glue



COMPLETION STEPS

- 1 Glue the tires onto the wheels.
- 2 Install AA batteries in the transmitter and receiver battery holder.
- 3 Install antenna tube.
- 4 Apply decals.

FUN FACTOR MT2

SPEED/ACCELERATION

The MT2 is very quick off the line, thanks to its 2-speed tranny, and it reaches nearly 40mph after it shifts.

JUMPING

The truck launches flat, but if you need to throttle it in midair, be careful: It's sensitive. Landings are mostly cushy, with just a little hop on hard touchdowns.

DURABILITY/RELIABILITY

We wiped out the rear body mounts after crashing the MT2 upside-down, and the engine-mounting screws loosened.

HANDLING

Not bad for a monster truck, but there's lots of body roll and understeer. It didn't flip easily, though, which is always a plus!

ASSEMBLY QUALITY

CEN does a good job; all the linkages were set properly, the idle setting was good, and the radio was trimmed out correctly.

CLIMBING

The MT2 needs better tires for climbing, but 4WD helps make up a lot of ground. Setting the tranny so it stays in first gear also helps the MT2 go up more easily.

FEATURES

1. NT-16 engine with a 2-needle carb
2. 2-speed tranny
3. Complete set of ball bearings
4. Pivot-ball suspension
5. Front and rear toe adjustment
6. Front universal-joint drive shafts
7. Sealed receiver and battery box
8. Oil-filled coil-over shocks
9. Dual-chamber tuned pipe
10. Primer-equipped fuel tank

Right (top): the MT2's NT-16 engine performed reliably and was easy to tune, thanks to the 2-needle carb.

Right (bottom): a large plastic case mounted on the right side of the chassis protects the receiver and battery pack from the elements.

Far right: the MT2 is the only truck in the group that uses pivot-ball suspension. This setup is built tough, with thick upper and lower arms and a disc-shaped hub carrier.





MAXIMUM MT PRO SPEED/ACCELERATION

The first gear's ratio on the 2-speed is high enough for quick acceleration. When the second gear engages, the rear end squats as the MT Pro takes off. The truck produces an impressive 43mph top speed.

JUMPING

The Max showed no fear of heights. When the truck is airborne, stay on the gas to keep the chassis level, and nearly every landing will end with the shiny side up.

DURABILITY/RELIABILITY

The chassis had no problem fending off damage caused by crashes, but with its plastic bumper and light bar, the body did sustain some damage.

HANDLING

Because of its rear-wheel drive, the truck pushed much more in the turns than the 4WD-equipped trucks. When you enter a turn, feathering the brake a bit helps the truck negotiate the corners better.

ASSEMBLY QUALITY

The truck was well built, but we had to chase loose screws after the first run.

CLIMBING

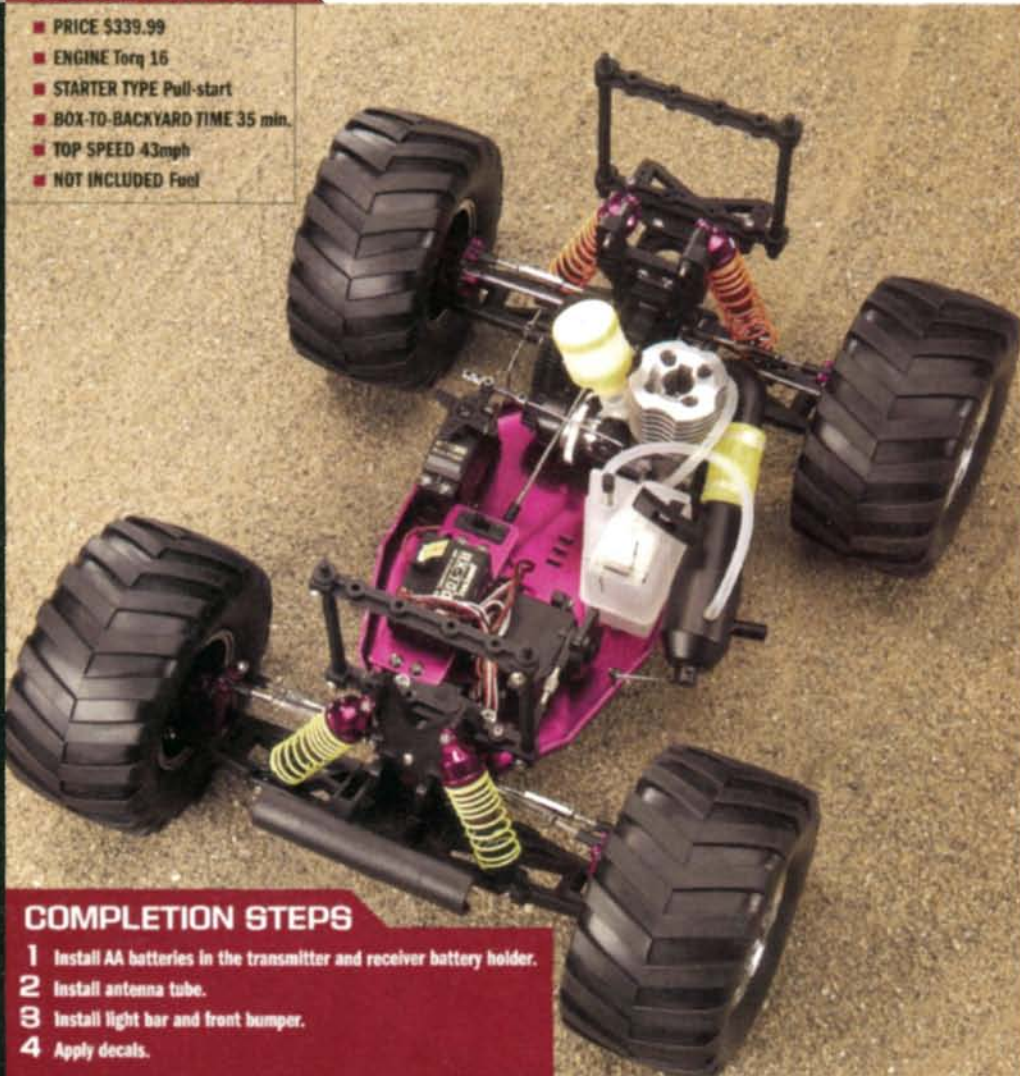
The MT climbed as well as the other 2WD trucks; on the steepest climbs, the truck flipped over backward before it ran out of traction.

MOST COMPLETE 2-SPEED TRANSMISSION DURATRAX MAXIMUM MT PRO

DuraTrax offers four versions of its Maximum line of trucks; we chose the Maximum MT Pro because it has a price tag and features that are similar to those of the other trucks in this article. The MT Pro includes all the items you'll need to get running except for fuel. The 2WD chassis is well-equipped and comes with the Stress-Tech parts guarantee that ensures replacement of any Stress-Tech parts during the first six months of ownership—a nice deal when you consider how much these trucks are abused when off-roading.

QUICK SPECS

- PRICE \$339.99
- ENGINE Torq 16
- STARTER TYPE Pull-start
- BOX-TO-BACKYARD TIME 35 min.
- TOP SPEED 43mph
- NOT INCLUDED Fuel



COMPLETION STEPS

- 1 Install AA batteries in the transmitter and receiver battery holder.
- 2 Install antenna tube.
- 3 Install light bar and front bumper.
- 4 Apply decals.

FEATURES

1. Torq 16 ABC engine
2. Threaded-body, aluminum shocks
3. Full set of turnbuckles
4. 2-speed tranny
5. Rear universals
6. Aluminum tuned pipe
7. Stress-Tech plastic parts guarantee
8. 2.5mm 6061 aluminum chassis plate
9. 85cc fuel tank
10. Complete set of 16 ball bearings



Above: the Torq 16 paired with the 2-speed tranny creates enough speed to satisfy any enthusiast.

Left (top): the front suspension features aluminum steering hubs and hub carriers with steel turnbuckles for easy camber and toe adjustments.

Left (bottom): the purple-anodized chassis makes a rigid platform for the MT Pro. Unfortunately, none of the screws are countersunk.

KYOSHO MEGAFORCE

Kyosho was the first to combine a reversing transmission with a full-time, shaft-driven 4WD system and a high-ground-clearance chassis. That was way back in 1997, with the Baja Field Beetle. The MegaForce uses the same basic layout, albeit on a larger scale. Kyosho's QRC (or "Quick Reverse Clutch") system makes the MegaForce the only truck in this shootout that can back out of trouble, and it's one of two trucks that has electric starting. Most strikingly, it's the biggest of our test trucks, thanks primarily to its 6-inch chevron tires.

QUICK SPECS

- PRICE \$400
- ENGINE Kyosho GS-15R
- STARTER TYPE Electric onboard starter
- BOX-TO-BACKYARD TIME 30 min.
- TOP SPEED 20mph
- NOT INCLUDED Fuel; fuel bottle; 12 AA batteries; 7.2V stick pack with Tamiya connector



COMPLETION STEPS

- 1 Install antenna tube.
- 2 Install transmitter and receiver batteries.
- 3 Install Touch-Starter probe on stick pack.

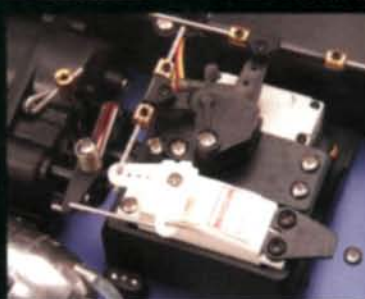
FEATURES

1. Enclosed QRC reverse-gear mechanism
2. Disc brake
3. GS-15R engine
4. Cast-aluminum tuned pipe
5. Enclosed radio box
6. 8-shock independent suspension
7. 125cc fuel tank
8. Touch Starter electric onboard starting unit
9. 2mm aluminum chassis
10. Metal-shielded ball bearings

Right (top): the GS-15R engine ran very well throughout testing. Here, you can see the starter motor tucked under the manifold and the shroud that covers the cooling vanes integrated into the flywheel.

Right (bottom): a clever cam system allows a single servo to provide throttle control in forward and reverse. Note the unused disc-brake actuator arm; if you're willing to forego reverse, you can hook up the brake system. If you want brakes and reverse capability, you'll need to get a third servo and a 3-channel radio (or an XTM Racing R-Box).

Far right: the MegaForce is the only 8-shock truck in the group. Note the use of the upper arm as the shock's lower mounting point and the overall chunkiness of the parts.



MEGAFORCE

SPEED/ACCELERATION

The MegaForce is quick off the line and makes the most of its power, but it's geared for torque, and that hurts its top speed; at 20mph, it's the slowest of all the trucks in the shootout.

JUMPING

Don't let the low score fool you. You'll have lots of fun jumping this truck; it just takes a little practice. Roll off the throttle in midair to keep the nose down, and be prepared for a hop on the landing; the stiff suspension and big tires tend to rebound.

DURABILITY/RELIABILITY

Kyosho's GS-15R engine just runs and runs; it's a perfect powerplant for an afternoon of no-hassle nitro action. The QRC tranny can make some nasty gnashy sounds while shifting, and though it never failed, it can't be good for the gears. But did we break anything? Nope.

HANDLING

Not surprising that as the tallest truck with the largest tires, the MegaForce was also the top-heaviest. The high center of gravity makes it easy to roll the MegaForce, so go easy on the high-speed corners. Full-scale monsters handle the same way!

ASSEMBLY QUALITY

Kyosho did a terrific job of assembling and packaging the MegaForce—no complaints.

CLIMBING

Thanks to its largest-in-class tires and geared-for-torque transmission, nothing could out-climb the MegaForce. It kept putting power to the ground until it flipped over on the steepest climbs.





4WD 2-SPEED TRANSMISSION

MEGATECH TEMPEST GLADIATOR

The Megatech started out as a nitro touring sedan; it now tackles the roughest terrain, thanks to the big chevron-tread tires. It comes with a 2-channel Airtronics Blazer Sport radio installed, and it features throttle/steering trims, LED battery gauge and servo-reversing. The included finger-type adjustable 2-speed tranny gets the truck up to pretty hairy speeds. Camber and toe are easy to adjust, thanks to the included steel turnbuckles. Megatech further cuts down the box-to-dirt time by including a painted, trimmed and stickered body along with glued tires.

TEMPEST GLADIATOR SPEED/ACCELERATION

The Gladiator's tall gearing hurt its acceleration from a stop but also gave it impressive speed when second gear spooled up—over 40mph!

JUMPING

The even weight distribution of the chassis kept the truck level through the air. The chassis' attitude was easy to adjust with a quick tap of the throttle or brake.

DURABILITY/RELIABILITY

Make sure that you keep the included hex wrench on hand when you drive this truck. The wheel nuts loosened on ours, and the press-fit drive hexes frequently loosened.

HANDLING

The Tempest handled very well, especially on smooth surfaces. You'll want to disable the swaybars for best suspension action in the rough.

ASSEMBLY QUALITY

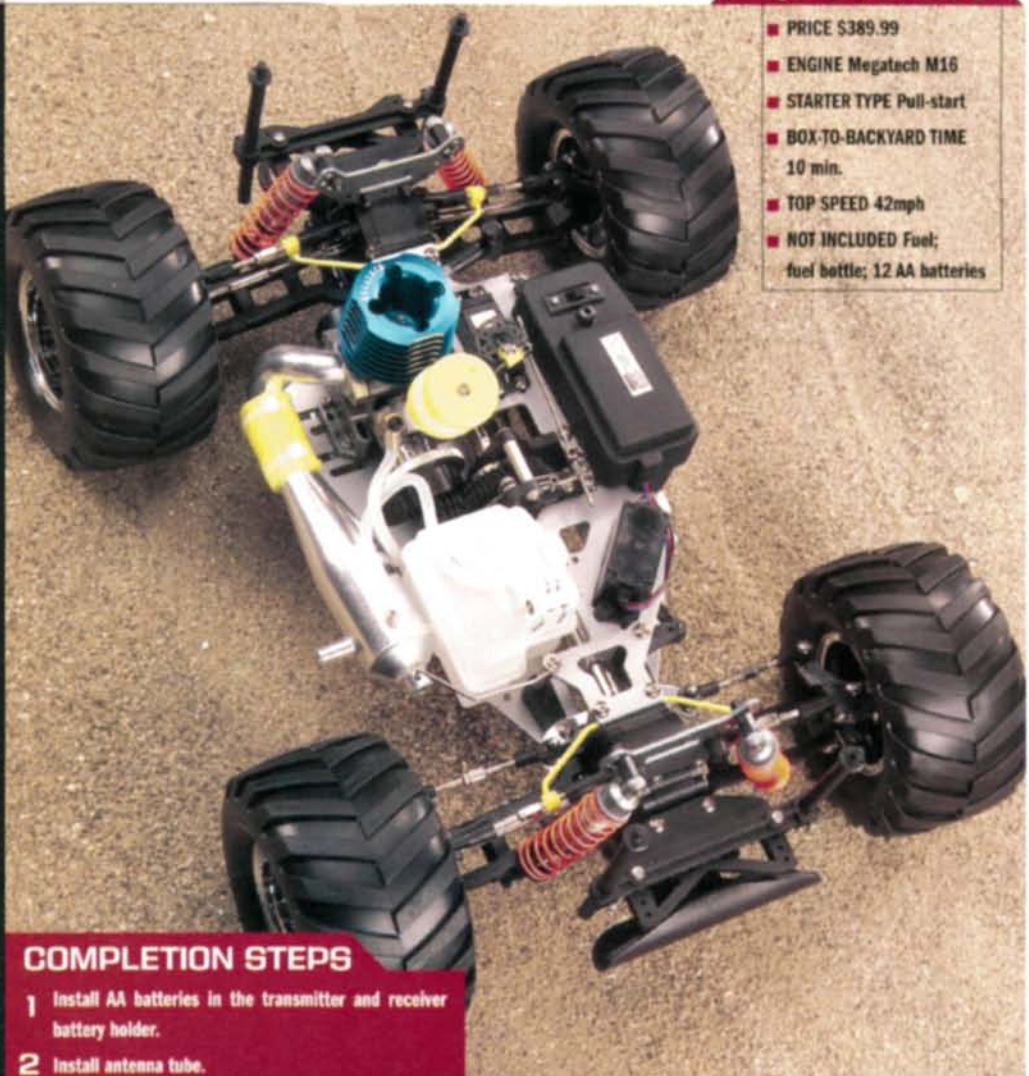
The truck came out of the box with all of its parts securely fastened, and the factory did a good job of routing the servo wires and fuel lines.

CLIMBING

The tires and shaft-drive 4WD provided the truck with good traction for climbing. It suffered a bit, though, because the high gearing didn't provide enough low-end torque.

QUICK SPECS

- PRICE \$389.99
- ENGINE Megatech M16
- STARTER TYPE Pull-start
- BOX-TO-BACKYARD TIME 10 min.
- TOP SPEED 42mph
- NOT INCLUDED Fuel; fuel bottle; 12 AA batteries



COMPLETION STEPS

- 1 Install AA batteries in the transmitter and receiver battery holder.
- 2 Install antenna tube.



Left (top): an enclosed radio box keeps the receiver and onboard battery away from dirt and fuel spills.

Left (bottom): the Gladiator uses a lower H-arm with adjustable upper-link-type suspension. The threaded aluminum shock bodies are a nice touch.

Far left: the M16 engine packs a punch and runs well. It's coupled to a finger-type 2-speed tranny, and a thin steel disc brake slows the truck.

FEATURES

1. Pull-start .16-size engine
2. Disc brake
3. Front and rear swaybars
4. Tuned pipe
5. Threaded-aluminum shocks
6. Adjustable turnbuckles
7. Front universal drive shafts
8. Machined-aluminum chassis
9. Glued tires
10. Grab handle

OFNA PIRATE 10 RT

OFNA's Pirate 10 has been around for quite some time but has gone through some changes to improve its durability, handling and—most important—its speed. The Pirate 10 RT is the culmination of the truck's evolution, and the result is very impressive: a powerful .21 Hyper pull-start engine shoehorned onto a cool, red-anodized aluminum-tub chassis and large-bore shocks to damp the suspension. Cast hubs are on each corner with a full bearing set to support the universal axles and the rest of the drive train. All of this comes in an impressive ready-to-run package; the Pirate 10 RT is one hot rig.

QUICK SPECS

- PRICE \$349.99
- ENGINE Hyper .21
- STARTER TYPE Pull-start
- BOX-TO-BACKYARD TIME 25 min.
- TOP SPEED 48.9mph
- NOT INCLUDED AA batteries for the radio and receiver; fuel



PIRATE SPEED/ACCELERATION

The Pirate 10 RT is a pure speed demon. At full throttle, the rig tops out at nearly 50mph!

JUMPING

Jumping takes only a short time to master. Here's what we learned: let off the throttle when you hit a jump, and you'll be rewarded with smooth sailing.

DURABILITY/RELIABILITY

Our Pirate was very reliable, but its plastic spur gear was missing a few teeth at the end of the day. The sample we tested here was previously used for the Pirate 10 reviews in *RC Car Action* and *RC Nitro*, so the total life of the spur gear was much longer than the test period of this shootout.

HANDLING

The truck turns on a dime off power; on power, it has a slight push. It isn't a race truck, but if you threw it on the track with a bunch of friends for a play race, it would put up a good battle.

ASSEMBLY QUALITY

Overall, the truck was very well assembled at the factory. Our only complaint is the placement of the air filter; the best position leaves it over the fuel-tank filler, and this means it's in the way when you fuel up.

CLIMBING

Climbing is not at all challenging for the 10 RT. The .21 engine motors the Pirate up just about any incline with sheer horsepower.

COMPLETION STEPS

- 1 Install the air filter.
- 2 Install the glow plug.
- 3 Install AA batteries in the transmitter and receiver battery holder.
- 4 Apply decals.

FEATURES

1. Cast-aluminum hubs
2. Universal axles
3. Large fuel tank with spill drain
4. .21 pull-start engine
5. Mounted and glued tires
6. Aluminum oil-filled shocks
7. Large fiber brake
8. Red, aluminum-tub chassis
9. Aluminum tuned pipe
10. Sealed receiver box

Right (top): the big-block Hyper .21 engine is what sets this truck apart from the rest. It's equipped with a slide carburetor, a huge heat-sink head for cooling and a recoil starter to get it fired up. This mill propels the truck up to speeds of about 50mph.

Right (bottom): with the top deck removed, you get a better look at the bellcrank steering system with its thick drag link and spring-loaded main crank that protect the servo from damage.

Far right: cast hubs are attached via hinge pins to the rear arms of the truck. A rear swaybar aids the truck's handling, along with the red-anodized, large-bore, oil-filled shocks.





LEAST EXPENSIVE ELECTRIC STARTER

TRAXXAS NITRO STAMPEDE

The Stampede has been around since we reviewed it in the February '96 issue of *RC Car Action*. It definitely has been around longer than the other trucks in this shootout. Traxxas has updated the original kit with blue anodizing, an electric starter and a dual-tip muffler, just to list a few examples. A Traxxas Top Qualifier radio controls the Stampede. It features adjustable neutral positions, throttle/steering trims and servo-reversing. Front toe and camber can be adjusted quickly with the included turnbuckles.

QUICK SPECS

- PRICE \$289.99
- ENGINE TRX Pro
- DISPLACEMENT .15
- STARTER TYPE Electric
- BOX-TO-BACKYARD TIME 30 min.
- TOP SPEED 29mph
- NOT INCLUDED AA batteries for the radio and receiver; fuel; fuel bottle; glue; 6-cell stick pack; charger

TRAXXAS STAMPEDE SPEED/ACCELERATION

The Stampede has a lot of get-up-and-go; when the rear end hooks up, the truck can wheelie with ease.

JUMPING

We expected the Stampede's high-CG chassis to hurt its flight manners, but it jumped very well; we were greatly impressed with its stability in the air.

DURABILITY/RELIABILITY

We didn't have any trouble starting or tuning the TRX Pro .15 engine, and the chassis and suspension held up to our abuse.

HANDLING

The suspension is a little stiff; it made the truck bounce over small bumps, but it helped the truck shrug off big hits and hard jump landings.

ASSEMBLY QUALITY

The truck is well assembled out of the box, but if you want it to look like the truck on the box, you'll have to apply the decals.

CLIMBING

Because of its high center of gravity, climbing with the Stampede is a little hairy. The front end lifts off the ground very easily; you have to get off the throttle to prevent it from flipping.

COMPLETION STEPS

- 1 Charge 6-cell stick pack and install in starter unit.
- 2 Glue the tires.
- 3 Install air filter.
- 4 Install AA batteries in the transmitter and receiver battery holder.
- 5 Install antenna tube.
- 6 Apply decals.



Above: it isn't a tuned pipe, and engine performance suffers a little, but this dual-tip muffler is just too cool. A large plastic cover protects the receiver batteries.

Right: adjustable turnbuckles allow easy adjustment of camber and toe.

Far right: the Traxxas TRX .15 engine is a reliable mill. The electric starter has no problem turning over the engine with a simple push of a button.



FEATURES

1. Electric starter
2. Dual-tip muffler
3. Disc brake
4. Slipper clutch
5. Ball-bearing-supported tranny
6. 75cc fuel tank
7. Universal drive shafts
8. Metal-gear planetary diff
9. Aluminum/plastic chassis
10. Stylish chrome spoked wheels

CEN Fun Factor MT2

DuraTrax
Maximum MT Pro

Kyosho MegaForce



PAUL

I had a lot of fun driving the MT2. Its remarkable speed and cushy suspension made the truck cool to watch as it flew across the rough terrain; the chassis remained level, while the tires rode up and down. The steering could use a stronger servo; this would make a noticeable difference in handling.

If I were buying my first nitro vehicle, the Maximum MT Pro would be my pick. It is the most complete of the bunch; it comes with an engine start-up video and the Stress-Tech parts guarantee (because you will hit stuff). These are all very helpful for first-timers.

It was nice to have reverse when driving the Force; it helped to get out of tough spots, and the Touch Starter worked great every time. With its high CG, the truck was a little squirrely but still manageable.



KEVIN

It's always cool to have anything with pivot-ball suspension, and the Fun Factor's pivot-ball suspension is very easy to tune. The shocks' damping works fine on the small bumps, but they could use a little work to handle jumps; the chassis bottoms out easily.

I had fun driving the Maximum MT at the photo shoot; the engine put out plenty of power for a truck of this size. I really like that a video is included to help beginners get their trucks running.

The Kyosho MegaForce was interesting to drive. The truck comes out of the box set up for forward/reverse operation instead of forward/brake. I'm not used to not having a brake, and I kept jamming the tranny into reverse every time I tried to slow the truck. I also felt that the suspension was a little on the stiff side; it caused the truck to bounce around too much for my taste.



PETER

Very fast, and therefore, very fun. The engine is a real gem, thanks to its 2-needle slide carb and run-all-day reliability. The radio is cheesy, but it works well enough. All this truck really needs is a better name; "Fun Factor" just doesn't say "monster truck."

Lots of aluminum goodies, plenty of speed and competent off-road handling make the Max Pro a very strong first-place contender. It's also a very complete RTR package; you even get the AA batteries for the radio gear.

The MegaForce is unquestionably the best truck here for "real" off-roading. You know—climbing hills, scaling obstacles, slogging through mud, etc. It has the big tires and torque on tap that you need for that kind of stuff, and if you do get into more trouble than the MegaForce can get out of, you can just kick it into reverse.



GREG

The MT2 is a great play vehicle, and its engine ran well. Its steering system leaves a little to be desired, as it doesn't get the truck turned around quickly enough on or off power. But if you don't mind swapping the steering servo for something quicker, you'll have a truck with lots of potential.

Talk about fun! The MT Pro, with its .16 engine, tuned pipe and 2-speed tranny, was amazing. The sound of the 2-speed kicking in doubles this rig's excitement factor. Jumping the Maximum was a blast, too; just make sure that you hit the jumps head on and land it on all fours, or you might pull a suspension arm out of its hinge.

After a day of pulling starter cords, I have to say that running the MegaForce was a welcome change, simply because of its electric onboard starter. The truck has a high center of gravity, and that means you must drive it a little more cautiously, but on the whole, the rig was fun to use and abuse.

	CEN FUN FACTOR MT2	DURATRAX MAXIMUM MT PRO	KYOSHO MEGAFORCE	MEGATECH TEMPEST GLADIATOR	OFNA PIRATE 10 RT	TRAXXAS NITRO STAMPEDE
Wheelbase	274mm	270mm	310mm	259mm	278mm	273mm
Weight	4 lb., 2 oz.	5 lb., 9 oz.	9 lb., 4 oz.	3 lb., 7 oz.	5 lb., 5 oz.	5 lb., 3.2 oz.
Width	340mm	335mm	368mm	318mm	350mm	324mm
Chassis	2mm aluminum	2.5mm aluminum	2mm aluminum	2mm aluminum	2mm aluminum	2.5mm aluminum
Camber links	Pivot-ball	Turnbuckles	Dual-arm	Turnbuckles	Threaded rod	Turnbuckles
Shocks	Plastic	Aluminum	Plastic	Aluminum	Aluminum	Plastic
Drive axles (F/R)	Universal/dogbone	Universal	Dogbone	Universal/dogbone	Universal/dogbone	Universal
2WD/4WD	4WD	2WD	4WD	4WD	4WD	2WD
Ball bearings	Yes	Yes	Yes	Yes	Yes	Ball-bearing tranny
Engine	NT-16	Torq 16	GS-15R	M16	Hyper .21	TRX-15
Starter	Pull-starter	Pull-starter	Electric start	Pull-starter	Pull-starter	Electric start
Spur gear	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic
Radio	Mirage III	DuraTrax by Futaba	Kyosho Perflex	Airtronics Blazer Sport	Airtronics Blazer Sport	Traxxas TQ
Servos	82103 standard	SX-100 standard	Kyosho KS-201	94102 standard	94102 standard	2055 standard
Glued tires	No	Yes	Yes	Yes	Yes	No
Body	Painted	Painted	Painted	Painted	Painted	Painted
Price*	\$300	\$339.99	\$370	\$389.99	\$350	\$289.99
*Varies with dealer						

Megatech Tempest Gladiator

The M16 engine got the truck off the line quickly, and the 2-speed tranny worked well to give it awesome top speed. And kudos to Megatech for offering a true RTR vehicle with factory-glued tires and a body that comes complete.

I was happy with the acceleration and top speed of the Tempest Gladiator. I didn't like that the wheel hexes loosened so frequently. I also loved the fact that the truck can be ready to go with very little effort.

Another speedy truck with a slick-shifting 2-speed. I had more fun with the Gladiator in parking-lot speed-run mode; other trucks are better in the dirt.

The Gladiator was fun on flat ground, but its limited suspension travel tossed it around when it encountered large obstacles. When I kept it on flat and mild terrain, I had a blast.

OFNA Pirate 10 RT

Tons of power in a small package make this truck my favorite of the group. Even with the big engine, the Pirate handled as well in the corners as the other trucks, and when it came to the straightaway ... c-yah! Having all that power on tap never gets old.

I'll never say "No" to more power; if you can fit a bigger engine in something, then do it. The Pirate 10 RT gets two thumbs up in my book for including a .21 powerplant. Having that much power at your fingertips never gets old.

Very, very fast, but also a real handful to drive; it isn't the best truck for first-time drivers. Locking the center diff helps a lot, though. You'll have the most fun on smooth surfaces; rough stuff, combined with the truck's warp-factor speed, make for a crash-prone off-road ride.

It wasn't easy to pick a winner, but I'm going with the 10 RT as my top choice. The .21 just captivated me. I love speed, and that's what this truck is all about. Almost 50mph from a monster truck? That's just crazy! Not only that, but this truck handles great, is durable and well-built, too; thumbs up to OFNA for such an excellent ready-to-run package.

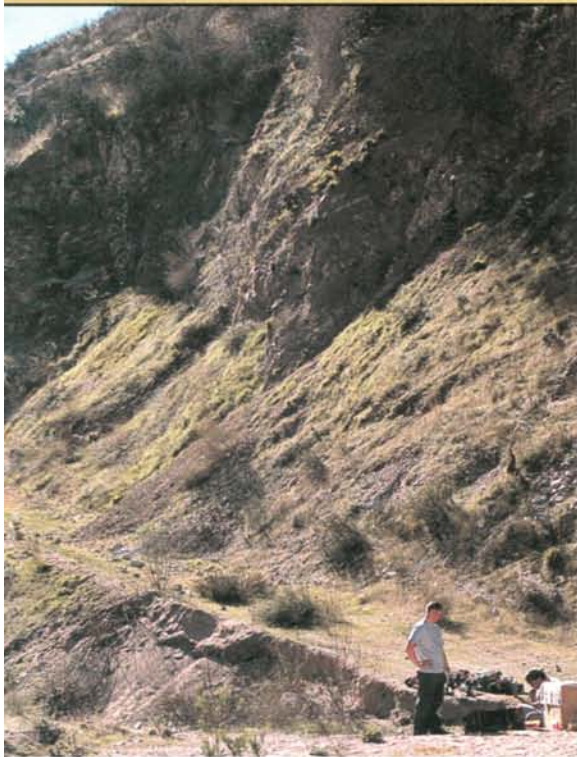
Traxxas Nitro Stampede

I was spoiled by the Stampede's easy-to-use electric-start system. Plug it in, push the button, and you're off. The Traxxas flatbed also stood up to all the abuse we dished out and was just plain fun to drive.

My pick has to be the Traxxas Nitro Stampede. I love its high-riding chassis and the fact that it pulls wheelies. The aftermarket parts available for this truck are also cool. The only disappointment is that the wheels spin on bronze bushings instead of ball bearings.

This oldie is still a real goodie. Fast, super-affordable, great factory support and tons of aftermarket options make it a winner.

Being behind the wheel of the Nitro Stampede is just too much fun. You can launch the truck off jumps all day, and it keeps coming back for more punishment. The Nitro 'Pede is really for all types of drivers—entry level for its ease of use and pro drivers for its ability to provide tons of fun.



TEST GEAR

We tested all the trucks on Trinity Monster Horsepower fuel, running 20-percent nitro. In addition to the usual jugs, we brought along a few of Trinity's starter kits, which include a quart of fuel as well as a fuel bottle, glow starter, four-way wrench and Nitro Blast cleaner. When you've got to keep six trucks running all day, you need all the glow starters and fuel bottles you can get!

Gee, do ya think the testing terrain was rugged enough?

SOURCE GUIDE

CEN RACING (714) 792-1923; cenracing.com.
DURATRAX distributed by Great Planes Model Distributors; duratrax.com.
GREAT PLANES MODEL DISTRIBUTORS (800) 637-7660; greatplanes.com.
KYOSHO distributed by Great Planes Model Distributors; kyosho.com.
MEGATECH INTL. (201) 662-2800; megatech.com.
OFNA RACING (949) 586-2910; ofna.com.
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RACER NEWS

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KYOSHO
THE FINEST RADIO CONTROL MODELS

BY GEORGE M. GONZALEZ & JASON SAMS

KORTZ & TEBO LAY DOWN THE SPANK

On the first weekend in February, The Dirt in Hemet, CA, saw its fourth annual Nitro Challenge. This year's event was filled with more than 300 entries in three classes. In the Pro $\frac{1}{8}$ -scale Buggy class, the top dawg all weekend was Kyosho driver Jeremy Kortz; he TQ'd after winning three of the four qualifying rounds. Kortz also won the grueling hour-long Main. Jared Tebo of Team Associated won the Pro $\frac{1}{10}$ -scale Nitro Truck class with consistent driving in his Main. And for all you monster truckers—a fast-driving Holly Bashard beat all of the guys with her OFNA Dominator. You go on with your bad self girl....

SITE SEEING



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High altitude tuning

NEEDINPOWER: I need information about how to run an engine at high altitudes.

RUSTLER DUDE: You should go about $\frac{1}{2}$ turn lower on the high-end needle—maybe even more.

DIRTRACINFOOL: I recommend that you leave the settings where they are until you get to the higher altitude where you plan to run the vehicle. The engine will run rich at first, but when you have it started and warmed up, you can start to lean out both of the needles as necessary.

RTR or kit?

SCREWNKOCKERS: What are some opinions on getting an RTR versus a kit? I've already built one car, and I'm wondering if I should go RTR on my next one.

JAMIE: Kits—if you have the time and patience to build them.

CBRT4: If you're going to be racing, you'll appreciate the features that a factory or race kit is usually equipped with. The initial investment may be higher, but nothing beats the satisfaction of running a vehicle you built.

Unmatched versus matched packs

BITURB015: What are the big differences between unmatched and matched packs? Are they really worth the extra money?

LAB-DRIVER: Matched cells not only have longer run times, but they also usually have higher voltage and lower internal resistance numbers because the cells are matched.

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NEW BLOOD FOR TEAM OFNA

Derek Furutani, Ryan Cavallieri and brothers Josh and Justin Wheeler have joined OFNA's growing racing program. The rumor was confirmed when we caught up with these racers at the fourth annual Dirt Nitro Challenge. They all sported OFNA $\frac{1}{8}$ -scale Hyper 7 buggies and racing gear. Furutani is a veteran RC racer who says he has been competing longer than he likes to admit. Cavallieri has been ripping up the RC scene with several recent $\frac{1}{10}$ -scale TQs and overall event wins, and the Wheeler brothers have been making names for themselves on the nitro $\frac{1}{8}$ -scale scene. The addition of these racers will certainly impact OFNA's racing success, which is headed in the right direction. There's another rumor that Brian Kinwald will be wheeling an OFNA Hyper 7 PBS—we'll keep you posted.

2003 U.S. Touring Car Championship

Every year, the nation's top touring-car specialists gather for the U.S. Touring Car National Championship, and this year, Tracksie Hobbies of Brookfield, WI, hosted the event. The top factory drivers battled in the Factory Modified class, and they also raced in a Factory Stock class. Paul Lemieux (right top) won Factory Stock, and Josh Cyrul (right bottom) picked up the win in Factory Modified. Ralph Burch from Serpent took third in Modified, Associated's Barry Baker claimed fourth, and Tamiya's David Jun finished fifth.



“You know you've been in this game too long when comm lathe motors have less turns than motors I won my first modified Nats with!” —Trinity team manager and living legend, Joel Johnson

SPEED SHOP

TEAM LOSI

Rear-exhaust manifold

Team Losi's new tubular manifold for rear-exhaust engines is designed specifically for off-road use. The hard-anodized manifold is tucked in tightly behind the engine and completes its forward bend well above the bottom of the chassis, thereby preventing the pipe and manifold from contacting the track if the chassis bottoms out. Dual-attachment springs supply double the holding power, and a silicone gasket is included.

Hard-anodized rear-exhaust manifold—item no. A-9347; \$18.50.

Team Losi; distributed by Horizon Hobby Inc. (800) 338-4639; horizonhobby.com.



OFNA

Micro Fail Safe

OFNA's new fail-safe unit is light and compact, and it could protect your expensive nitro ride from harm caused by signal loss or interference; if either occurs, the fail-safe kicks in and returns the throttle servo to

whichever setting you program (usually, neutral or full brake). The unit is as small as a peanut M&M, so it's an easy fit in most radio boxes. Universal connectors make it easy to jack into your gear, and a single button programs the unit.

Fail Safe—91002; \$29.95.

OFNA Racing (949) 586-2910; ofna.com.



3 RACING Mugen MTX-3 upgrades

The Mugen MTX-3 has been available only for a short time, but 3 Racing has already released more than 35 options for it, and here are a few of them.

The 4mm, gunmetal-gray, anodized-aluminum chassis includes engine mounts, and it trims grams—especially when used with the carbon-fiber radio tray. An aluminum center radio-tray mount holds the parts together. To upgrade the drive train, aluminum pulleys and a front one-way unit are available.

Chassis set—MTX3001; \$74.95.

Radio tray—MTX3009; \$43.95.

Radio-tray mount—MTX3010; \$28.95.

One-way pulley—MTX3020; \$19.95.

One-way tube—MTX3005; \$38.95.

3-Racing; distributed by RC Hub (816) 224-2070; rchub.com.



SPEEDMIND

"The Beast" foam tires

According to SpeedMind, "The Beast" tires have a high rubber content that wears better while maintaining high traction. The tires

were designed primarily for outdoor use but can be used indoors as well. The foamies are glued to white dish wheels and are available in various shores (hardnesses) to tune your car.

"The Beast" foam tires—GT26140F (40 shore), GT26142F (42 shore), GT26145F (45 shore); \$19.90/pair.

SpeedMind; distributed by Magma Intl. Ltd. (905) 886-1808; speedmind.ca.

MIP Heavyweight flywheels

MIP's newest flywheels use a black-oxide coating to prevent corrosion and are deeply knurled to better bite your starter-box wheel. The hefty steel construction helps reduce wheel spin by slowing the engine's spool-up time and can also smooth out the vehicle's power band and improve idling. MIP offers the steel wheels for the Team Losi Triple-XNT and the Traxxas TRX 2.5 T-Maxx.

Heavyweight flywheel—3080 (Losi Triple-XNT), 3079 (Traxxas TRX 2.5); \$12 each.

MIP (626) 339-9007; miponline.com.



NATIVE RACING Aluminum top deck for Team Losi Triple-XNT

Native Racing's top plate will let you remove your XNT's steering servo without removing the entire top deck; instead, just two screws release the servo. The Native plate also gives you more tuning options, thanks to extra mounting holes for placing the servo farther fore and aft on the chassis. The plate also allows quick fuel-tank removal.

Top deck—CHS-LOSITP; \$69.95.

Native Racing (407) 228-0760; remotecontrolhobby.com.



TRACK THREADS

TRINITY Transporter Bags

Check out these Transporter bags in Trinity and Team Kinwald styles. The main compartment can swallow all your bulky stuff, while the zippered side pockets can handle smaller gear. The zippered bottom compartment contains a heavy-duty, 20x14x7-inch cardboard box to protect your car. All the logos are embroidered, and the bags are constructed of heavy-duty fabric and zippers.

Trinity Transporter bag—RC9047; \$59.99.

Team Kinwald Transporter bag—TK0100; \$59.99.

Trinity Products Inc. (732) 635-1600; teamtrinity.com.



UNDER THE HOOD

Greg Degani's IFMAR World Champion

Kyosho MP-7.5 Kanai 2

EQUIPMENT USED

Radio system: Futaba 3PJ
Receiver: Futaba 103F 75MHz FM
Steering servo: Futaba 9450 digital
Battery: Team Orion 1100mAh
ESC: Keyence Zero V Extreme
Motor: O.S. V01B
Gearing: 14/46
Tires (F/R): Pro-Line Knuckles

Throttle servo: Futaba 9350 digital
Head: O'Donnell
Air filter: O.S.
Pipe: O.S. 2050
Fuel: Sidewinder 30-percent
Plug: O'Donnell 67
Clutch: 3-shoe

SETUP

	FRONT	REAR
Caster/anti-squat	Position B, B	0°
Camber	-1.5°	-3°
Toe	-3°	2°
Swaybars	2.5mm	2.8mm
Shock fluid	50WT	30WT
Shock pistons	1.3	1.3
Springs	Blue	Blue
Front hub	22 degrees	—
Preload	7mm	3mm
Rebound	Full	116mm
Shock tower mount	Upper, inner hole	Lower, second hole
Arm mount	Inner hole	Inner hole
Camber-link mount	—	No. 4 tower/outer hub
Rear hub position	—	Upper
Front diff	LSD, Kyosho Red fluid	
Center diff	Standard, 7,000WT fluid	
Rear diff	Standard, 1,000WT fluid	



Personal transponders are rarely used at ROAR and IFMAR racing events, but like most racers, Greg uses an AMB DP personal transponder to make life easier when he competes at club races.



Pro-Line's new Knuckles buggy tires provided the traction Greg needed to win the Worlds. These are the actual tires he used at the race. They look as though they could handle another full hour of racing!



FACTORY DRIVER HOT MOD

Greg installed two in-line fuel filters on his car to bring the fuel capacity up to 173cc—slightly below the IFMAR 175cc maximum-fuel capacity. According to Greg, each fuel filter stores a little less than 2cc, and this means that he could have installed a third, if he had wanted to. He didn't want to risk any fuel-delivery problems, though, so he settled for just two.



The O.S. V01B scores another world championship. This isn't your typical engine, though; it has been tweaked and massaged by the master engine builder himself: Steve O'Donnell. I wish we could get one of these special "team-only" engines so we could inspect it. The engine is equipped with an O'Donnell cooling head and an O.S. tuned pipe.



The body clips that retain the wing are secured with tie-wraps. This wing will break apart before it comes off the wing mount. Greg also installed tie-wraps on the body clips that secure the body to the chassis. It's the little details like these that keep your car running through a full hour of racing.



5 QUESTIONS



DRIVER: Greg Degani

AGE: 26

LAST BIG WIN: IFMAR 1/8-scale Fuel Off-Road World Championship

SPONSORS: Kyosho, Sidewinder, Pro-Line, Futaba, O.S., GS Racing, CNC Bodies, Racers Edge and Kimbrough

WHEN I'M NOT RACING, I: am either working or hanging out at Chad Bradley's house. What can I say? RC takes up most of my time.

RC CAR ACTION: What did you do to celebrate after you won the Worlds?

GD: The race ended kind of late, so I headed to the hotel to get cleaned up and then went to the Worlds banquet, where the trophies were handed out. That went on until midnight, and I was kind of tired from all the excitement, so I turned in early. I partied quite a bit when I returned home, though.

RCCA: It must have been an adventure traveling to exotic Uruguay. Did you run into any security issues going through the various airports and through customs?

GD: When we returned home, some of the racers had packed their cars without draining out the fuel. The security officials made us remove the fuel tanks from our cars and drain them completely. They also confiscated all the batteries. When I realized that they were doing this, I hid the rechargeable battery packs from my radio, temp gun and power drill inside my bags. Those things are expensive!

RCCA: What was it like over there?

GD: It was good. Everything was really cheap; I probably spent less than \$150 the entire week I was there. A good meal cost less than \$2, and you could eat like a king for about 5 bucks. There was a McDonald's down the street from the track; a combo meal there was \$2. I wish it was that way here! The hotel was very nice, and the people were very friendly. Overall, it was a great trip.

RCCA: How did you like the track and the facility? Did you have any difficulty with any particular section of the track or with getting your car dialed in?

GD: The track was huge—around 200 by 200 feet with 15-foot-wide lanes. It was probably one of the best tracks I've ever raced on. The event was organized extremely well, and the facility is one of the best in the world. I attended the Worlds warmup race there months before, so I was already familiar with the track, and my car was dialed.

RCCA: How would you rate your competition at the event? Who was your toughest competitor during the Main?

GD: The competition at this level is always tough, but the racer who stands out in my mind as the toughest was Mugen's Kenji Osaka. The funny thing is, I didn't expect him to be so good. We really had a back-and-forth battle going on during the 20-minute semifinal before the Main. In the end, he beat me. I tried doing a last-minute midair pass on him on the last lap, but I ended up crashing. I finished in second place in that race, and that bumped me up to the final. Richard Saxton, Kenji Osaka and Chad Bradley all had better times than I did, though.

RCCA: Hey, all that matters is where you finish in the Main, and you took first place!

RC looks like real NASCAR action when the cars are burning up a concrete oval.



Danger: wet cement!

ROAR Paved Oval Nationals

by Kenny Bergschultz

After a long week of extended rain delays and midnight runs through the drive-up window at Taco Bell, the ROAR 2002 Paved Oval Nationals were decided. MSA Racing, in a quaint valley in Crossville, TN, hosted the event. Its unique track, in the backyard of MSA Distributing, has a concrete surface with a 285-foot race groove, 16-foot-wide lanes and a 3-foot apron. All of the drivers found the track rather forgiving, with plenty of room to pass and maneuver, but unexpected weather delays tested the racers' patience.

RAIN IN THE MAINS

Because of Saturday's crappy weather, the Mains were sorted according to three of the four scheduled qualifying rounds. Sunday's morning rain and mist hampered practice time and made the chances of completing the triple A-mains pretty slim. The Mains started at high noon, as scheduled, and the first rounds had been run before the rain started again. At the discretion of director Kenny "Scarecrow" Holmes and ROAR officials, the race was called off, and the

national championships were decided according to the racers' finishing positions in the first A-main.

Despite the weather and the abbreviated schedule, the action in all of the classes was exciting and challenging. The 6.0 and 19-turn Exhibition classes were major success stories and extremely entertaining to participate in as well as to watch. Some drivers felt disappointed about not getting to run in the last two A-mains, but let's hope for better weather next time.

Oval Racing 6.0

The Stock 6.0 demonstration was a unique addition to the event. In this class, all of the cars used ROAR stock motors and 6-cell battery packs, as usual. The twist was that the drivers were forbidden to post lap times shorter than 6 seconds (most 6-cell stock cars can easily post lap times of less than 6 seconds at the MSA track). If a racer posted a shorter lap time, one lap was subtracted from his or her final lap count. This class was not only unique, but it also provided some great racing action that put the emphasis on strategy and not on fast lap times. Will Murphy won after posting consistent 6- to 6.2-second lap times. The old saying, "slow is fast," was never more true!

ROAR Paved Oval Nats - Winners

Fin.	Qual.	Driver	Chassis	Motor	Battery	ESC	Radio	Tires	Body
1/10 4-cell Stock									
1	1	Barry Hill	Hyperdrive	Handout	SMC	Keyence	JR Racing	BSR	Bolink
2	2	William Housley	Hyperdrive	Handout	SMC	LRP	Futaba	BSR	Bolink
3	5	Derrick Robbins	Hyperdrive	Handout	SMC	GM	Futaba	BSR	Bolink
4	8	Steve Downs	Hyperdrive	Handout	KC Racing	Novak	Airtronics	BSR	Bolink
5	9	Ken Hooper	Hyperdrive	Handout	SMC	LRP	KO Propo	BSR	Protoform
6	6	Marty Hillman	KSG Motorsports	Handout	Hurricane	Novak	Futaba	BSR	Bolink
7	7	Ricky Witt	Hyperdrive	Handout	SMC	Novak	JR Racing	BSR	Protoform
8	4	Scott Davis	Hyperdrive	Handout	Pro-Match	GM	Futaba	BSR	Bolink
9	10	Jody Miller	Hyperdrive	Handout	Pro-Match	Novak	Futaba	BSR	Bolink
10	3	Jeff Skomski	Hyperdrive	Handout	Hefty Cells	LRP	Futaba	BSR	Protoform
1/12 4-cell Modified									
1	6	Kevin Koback	Hyperdrive	Mighty Motors	Pole Position	LRP	Futaba	BSR	Bolink
2	3	Chris Cooper	Hyperdrive	CRM 110	World Class	Novak	Airtronics	TM Radials	Bolink
3	4	Jeff Carapellatti	Hyperdrive	Putnam Propulsion	New Wave	Novak	Futaba	BSR	Protoform
4	10	Charles Yates	RaceTech	Putnam Propulsion	Trinity	GM	KO Propo	BSR	Bolink
5	2	Corey Heft	Leading Edge	Team 1	Hefty Cells	GM	Futaba	BSR	Bolink
6	5	Ricky Witt	Hyperdrive	Built Motorsports	SMC	LRP	JR Racing	BSR	Bolink
7	7	Jeff Skomski	Woods	Team 1	Hurricane	Novak	Futaba	BSR	Bolink
8	9	Herbie Coulbourne	Associated	Reedy	Red Alert	Novak	Futaba	BSR	Protoform
9	1	Jerry Johnson	Hyperdrive	Built Motorsports	Pro-Match	LRP	JR Racing	BSR	Protoform
10	8	Kevin S. Perry	RaceTech	Putnam Propulsion	World Class	GM	KO Propo	BSR	Protoform
1/10 6.0 Lap Stock									
1	6	Will Murphy	Hyperdrive	Handout	SMC	GM	Airtronics	BSR	Protoform
2	1	Tim McNutt	Associated	Handout	SMC	LRP	JR	BSR	Protoform
3	5	Tracy Lambe	RaceTech	Handout	Pro-Match	Novak	Futaba	BSR	Bolink
4	4	Brandon Sutherland	RaceTech	Handout	—	Novak	Futaba	BSR	Protoform
5	2	Lee Ricker	Associated	Handout	SMC	Novak	Futaba	BSR	Protoform
6	3	Allen White	Hyperdrive	Handout	SMC	Tekin	Futaba	BSR	Protoform
7	9	Marcus Cooper	Hyperdrive	Handout	SMC	LRP	KO Propo	BSR	Protoform
8	7	Carl Casteel	Hyperdrive	Handout	B&T	GM	Multiplex	BSR	Protoform
9	10	Chip Bonds	RaceTech	Handout	Pro-Match	Novak	Airtronics	BSR	Protoform
10	8	Jose Nichols	Associated	Handout	SMC	Novak	Futaba	BSR	RaceTech
1/10 4-cell 19-Turn									
1	2	Jamie Tennies	Trinity	Handout	Hefty Cells	Novak	JR Racing	BSR	Protoform
2	1	Johnny Broyles	KSG Motorsports	Handout	SMC	Novak	—	BSR	Bolink
3	6	Jimmy Flack	Hyperdrive	Handout	Pro-Match	GM	Airtronics	BSR	Protoform
4	8	Jerry Johnson	Hyperdrive	Handout	Pro-Match	LRP	JR Racing	BSR	Protoform
5	5	Scotty Maupin	Associated	Handout	Reedy	Novak	Futaba	BSR	Bolink
6	7	Corey Heft	Leading Edge	Handout	Hefty Cells	Keyence	Futaba	BSR	Protoform
7	3	Eric Anderson	Hyperdrive	Handout	SMC	Futaba	Futaba	BSR	Bolink
8	10	Jeff Willis	Hyperdrive	Handout	Pro-Match	Novak	Futaba	BSR	Bolink
9	9	Danny King	Hyperdrive	Handout	Litespeed	Novak	Futaba	BSR	Bolink
10	4	Stan Brackett	Hyperdrive	Handout	Pro-Match	Novak	Futaba	BSR	Protoform
1/10 4-cell Modified									
1	1	Andy McClellan	KSG Motorsports	Kisby Modifieds	SMC	Novak	Futaba	BSR	Bolink
2	2	Jeff Helms	—	KC Racing	KC Racing	Novak	Futaba	BSR	Bolink
3	5	John James	RaceTech	Built Motorsports	Pro-Match	Tekin	Airtronics	BSR	Bolink
4	4	Monti Panzica	RaceTech	Kisby Modifieds	SMC	Keyence	Futaba	BSR	Bolink
5	3	Richie King	Associated	Reedy	Reedy	Novak	Futaba	BSR	Bolink
6	6	Donnie Logan	RaceTech	KC Racing	KC Racing	Novak	Futaba	BSR	Bolink
7	7	Kevin Koback	Hyperdrive	Mighty Motors	Pole Position	Keyence	Futaba	BSR	Bolink
8	8	Mike Ottinger	Hyperdrive	Lite Speed	Litespeed	Tekin	Futaba	BSR	Protoform
9	9	Armon Beckom	Associated	Reedy	Reedy	LRP	Futaba	BSR	Bolink
10	10	Lin Vaughn	Hyperdrive	Built Motorsports	SMC	Novak	Futaba	BSR	Bolink

—Information not supplied by driver



Above: here are your 1/10 4-cell Mod winners (clockwise from top left) Lin Vaughn, Armon Beckom, Kevin Koback, Donnie Logan, winner Andy McClellan, Jeff Helms, John James, Monti Panzica, and Richie King. Mike Ottinger placed eighth but missed this photo op!

Left: Richie King, who appears to have the world's cleanest pit space, shows off his new Associated L4.



Snowbird

Trinity's Josh Cyrul takes on 750 racers and wins!

by Kevin Hetmanski & Kenny Bergschultz

For nearly ten years, Mike Boylan and his group of tireless workers have hosted the Snowbird Nationals. Racing there each year has become a tradition to many, and the record-breaking attendance proves that it has evolved into a world-class event. This year's race brought people from all over the U.S. and from around the world; racers traveled from as far as Japan, Germany, Canada, Finland and England. I flew to Florida to see what it was all about. The weather outside was cold, but the racing inside was hot!



Matt Francis is the ultimate babe magnet. He gave me a few pointers on how to pick up chicks. All I have to do now is learn how to talk to them.

ROADCOURSE MAINS

Touring Expert 19-turn. After a rough start, top qualifier Jilles Groskamp managed to take the lead position and pull away from the pack, but Team Associated factory driver Barry Baker—who had jumped from third to second after the tone—was right on his tail. Baker rallied behind the leader for several laps and then accidentally took out Jilles in one of the corners. Like the gentleman that he is, Baker waited for the turn marshals to put Jilles' car back on the track. But a couple of other cars squeaked by, and Baker found himself in third. Baker struggled on, fought his way back up to the top and took the win.

Touring Stock. Top qualifier Mark Smyka took an early lead, but Todd Malone worked through the pack and was soon right on his bumper.



I had the honor of being one of the judges for concours. Sam Cosimano took first in the Most Authentic class (above), and Justin Kawszler won in the Best Looking class (right).



THE BIGGEST RC RACE OF ALL TIME

At any big race you'll typically see around 300 entries, but not at the Snowbirds; this year, the race brought out a record-breaking 750-plus entries! That isn't just a record attendance for the Snowbirds; it's the biggest RC race of all time! The racers who signed up to race in just one class had to wait more than five hours between qualifying rounds. That doesn't seem too bad when you consider that more than 360 racers signed up for the road course, and just under 400 racers registered for the oval.



Nationals

SPONSORED BY RADIO CONTROL CAR ACTION & TRINITY



Here's the legendary Mike Reedy hard at work; he tweaked the new Reedy KR motors for the team drivers all weekend.

Smyka hit a pipe or two along the way, and his mistakes allowed Malone to take over the lead. At the buzzer, it was all Malone, so he took home the hardware.

Touring Sportsman 19-turn. Top qualifier Timmy Heiser took the lead and never looked back as his car pulled away from the rest of the field. Scotty Ernst was in a Zen-like state as he tried hard to catch up. It looked as if it

would be all over for Heiser when his car spun out in one of the corners, but Heiser managed to hold Ernst at bay and took home the win.

Touring Pro Mod. The spectator attendance was huge at the Snowbirds, and they were all there to see this race. Team Trinity factory driver and top qualifier, Josh Cyrul took the lead and never gave it up. He was on cruise control the whole five minutes, so the real race was for second. Another Team Trinity factory driver, David Spashett was sailing along in second with Team Associated/Reedy driver Mike Dumas riding it out in third. Spashett drove tight lines lap after lap, which left Dumas wondering if he would ever get an opportunity to squeak by the multi world champ. Spashett's concentration must have slipped a little near the end of the race; he took a corner too wide and Dumas rolled by to claim second.



Josh Cyrul, David Spashett and Brian Kinwald relax before the trophy presentations.



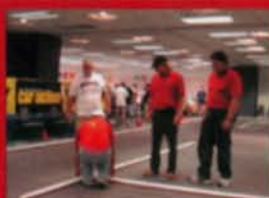
During the race weekend Protoform showed off the Ascari, its new, very low-slung 1/12-scale body (item no. 1608). It costs the same as Protoform's other 1/12-scale bodies.

THE TRACK



Ozite was rolled out on the Ramada's banquet floor, and the track was constructed from PVC pipe, a lot of screws and the sweat of a dedicated track crew. The carpet was only large enough for one track to be set up, so the roadcourse qualifiers were held in the morning, and the oval qualifiers were run at night. It took a couple of guys only 15 minutes to change the track from the road course to the oval. Each time the track was changed, the crew checked for debris and vacuumed the Ozite.

The roadcourse contestants had one round of IFMAR qualifying on Friday and two on Saturday; the oval racers had the opposite: two rounds of heads-up qualifying on Friday and one on Saturday.



WINNERS ▶ ROADCOURSE

TOURING EXPERT 19-TURN

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	3	Barry Baker	Associated TC3	Reedy	Reedy/Yokomo	LRP	Airtronics	Protoform	Jaco PO/P
2	6	Matt Francis	Losi Triple-XS Graphite	Trinity	Trinity	LRP	Airtronics	Losi Alfa	TRC Plaid/Tan
3	1	Jilles Groskamp	XRAY Evo2	Fantom	Peak GP3300	Nosram	Sanwa	Protoform	Jaco OP/P
4	5	Craig Drescher	Associated TC3	Trinity	Reedy/Yokomo	LRP	KO Propo	Protoform	Jaco
5	4	Brian Kinwald	Losi Triple-XS Graphite	Trinity	Trinity	Novak GT7	Airtronics	Losi Alfa	TRC

TOURING STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	3	Todd Malone	Associated TC3	Handout	SMC	LRP	Airtronics	Protoform	Jaco
2	1	Mark Smyka	Associated TC3	Handout	Trinity UMH	Novak	Airtronics	Protoform	CRC
3	5	Paul Ciccarello	Associated TC3	Handout	SMC	Novak	Airtronics	Parma	Jaco
4	8	Timmy Heiser	Schumacher Mission	Handout	Reedy 3300	Novak GT7	KO Propo	Losi Alfa	Jaco
5	10	Jeff Cuffs	IRS TC3	Handout	Trinity GP 3300	Novak	KO Propo	Reference	TRC

TOURING SPORTSMAN 19-TURN

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Timmy Heiser	Schumacher Mission	Trinity	Reedy GP3300	Novak GT7	KO Propo	Losi Alfa	Jaco
2	2	Scotty Ernst	Associated TC3	Team 1	Reedy	Novak GT7	Airtronics	Protoform	Jaco Plaid/Purple
3	8	Jeff Nidd	XRAY Evo2	Fantom	SMC	LRP	Airtronics	Protoform	Jaco
4	5	Jody Womack	Associated TC3	C2	Reedy/Yokomo	Novak GT7	Futaba	Protoform	Jaco Plaid/Purple
5	7	Shad Galante	Corally C4.1	Putnam	Corally 3300	Keyence	KO Propo	—	Jaco

TOURING PRO MOD

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	2	Josh Cyrul	Associated TC3	Trinity D5	Trinity GP3300	LRP	KO Propo	Trinity	TRC Cyan/Tan
2	4	Mike Dumas	Associated TC3	Reedy Ti	Reedy	LRP	JR Racing	Protoform	Jaco
3	3	David Spashett	Losi Triple-XS Graphite	Trinity D5	Trinity GP3300	LRP	KO Propo	Losi Alfa	TRC Plaid/Purple
4	6	Craig Drescher	Associated TC3	Reedy	Reedy/Yokomo	LRP	KO Propo	Protoform Stratus	Jaco
5	7	Ralph Burch	XRAY Evo2	Fantom	GM GP330	GM SX9	Sanwa	Protoform	Jaco OP/P

1/12 GTP STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Mark Smyka	CRC 6-pack	Handout	Trinity Sanyo	LRP	Airtronics	Parma EXP8	TRC
2	2	Paul Ciccarello	Speedmerchant Rev3	Handout	SMC	Novak	Airtronics	Parma	Jaco
3	3	Scott Jakes	Speedmerchant Rev3	Handout	New Wave	LRP	Airtronics	Parma	TRC
4	4	Scotty Ernst	IRS Rugrat	Handout	Reedy	Novak GT7	Airtronics	Protoform P35	Jaco Purple/Gray
5	5	Dave Reiman	Trinity Switchblade	Handout	Trinity	LRP	KO Propo	Trinity	TRC

1/12 GTP MOD

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Josh Cyrul	Trinity Switchblade	Trinity D5	Trinity GP 3300	LRP	KO Propo	Trinity	TRC Purple/Gray
2	2	David Spashett	Trinity Switchblade	Trinity D5	Trinity GP 3300	LRP	KO Propo	Trinity	TRC Purple/Gray
3	3	Brian Kinwald	Trinity	Trinity D5	Trinity GP 3300	Novak	Airtronics	Trinity Bent18	TRC Grey/Magenta
4	4	Mike Blackstock	Associated 12L3	Reedy Ti	Reedy 3300	Novak GT7	KO Propo	Parma Bently	Jaco Purple/White
5	5	Takuya Ito	—	—	—	—	—	—	—

— Information not supplied by driver



1/12 GTP Stock. Top qualifier Mark Smyka was dominant in this class the entire weekend; during the Main, he immediately opened up a big lead over second-place driver Paul Ciccarello. Smyka must have gotten a little too relaxed because Ciccarello caught up and took over the lead.

That's all it took to snap Smyka out of his trance. He soon reclaimed the lead and crossed the finish line first.



Team Trinity owner Ernie Provetti kept the public up to date on the races. He posted results on the Team Trinity website throughout the weekend.

WINNERS ▶ OVAL

4WD TOURING STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	8	Scott Meeks	Associated TC3	Handout	Pro-Match	Keyence	KO Propo	Protoform	Jaco Plaid/D. Purple
2	1	Ken Campbell	Associated TC3	Handout	Trinity	Keyence	Airtronics	Protoform	Jaco
3	3	Butch Beebe	Associated TC3	Handout	World Class	Novak	Futaba	Losi Intrepid	Jaco OP/P
4	2	Dan Dolbert	XRAY Evo2	Handout	World Class	LRP	KO Propo	Protoform	BSR
5	6	Bill Pritchard	HPI Pro 2	Handout	Sanyo 3300	Tekin G10	Futaba	Losi Ford	Jaco

4-CELL 1/12 MODIFIED

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Phil Marabella	Trinity Switchblade	Trinity	Trinity GP3300	Keyence	Futaba	Protoform	TRC
2	7	Ted Flack	ADX	Putnam	SMC	LRP	Futaba	Protoform	Jaco
3	4	Kevin Koback	Hyperdrive	Mighty Motor	SMC	Novak	—	Bolink	Jaco
4	10	Bob Smith	ADX	Putnam	SMC	Keyence	Airtronics	Protoform	Jaco
5	6	John Hauensten	—	—	—	—	—	—	—

6-CELL 1/10 STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	4	Troy Desmarais	Associated L4	Handout	Pro Match	Keyence	Airtronics	Protoform	—
2	10	Steve Salvas	Hyperdrive	Handout	Pole Position	Novak	KO Propo	Protoform GP	BSR
3	5	Chris Lawson	Associated L4	Handout	Pro Match	Novak	Futaba	Protoform	Jaco
4	2	Brent Lane	—	Handout	—	—	—	—	—
5	6	Rich Boehmler	ADX	Handout	SMC	LRP	Futaba	Protoform	—

6-CELL 1/10 PRO MOD

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	2	Daryl Silva	Associated L40	Reedy Ti	Reedy 3300	LRP	JR	Protoform	Jaco
2	5	Josh Cyru	Trinity	Trinity D5	Trinity GP3300	LRP	KO Propo	Protoform	TRC
3	3	Sean Cochran	Associated L40	Reedy Ti	Reedy Xcell 3300	LRP	JR	Protoform	Jaco
4	9	Jason Lambert	Trinity Switchblade	Trinity	Trinity	LRP	Futaba	Protoform	TRC
5	8	Mike Russel	—	—	—	—	—	—	—

4-CELL 1/10 19-TURN

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Greg Honeycutt	—	—	—	—	—	—	—
2	2	Eric Anderson	Hyperdrive	Putnam	SMC GP 3300	Futaba	Futaba	Protoform	BSR
3	9	Roger St. Clair	Racetech	KC-Racing	KC-Racing	LRP	Futaba	Bolink	—
4	5	Jamie Tennes	KSG	Team 1	Pole Position	LRP	JR	Protoform	Jaco
5	10	Mike Ulibrik	—	—	—	—	—	—	—

4-CELL 1/10 PRO MOD

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Andy McClellan	KSG Xtreme CS	Kisby	SMC	Futaba	Futaba	Bolink	Jaco
2	10	Danny Bartholomew	KSG	Putnam	SMC	Keyence	Futaba	Protoform	Jaco
3	2	Greg Honeycutt	—	—	—	—	—	—	—
4	4	Richie King	KSG Xtreme CS	Kisby	Pole Position	Futaba	Futaba	Bolink	BSR
5	8	Daryl Silva	Associated L4	Reedy Ti	Reedy	LRP	JR	Protoform	Jaco

4-CELL 1/12 STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Peter D'Agnolo	PDI	Handout	Wiplash	Keyence	—	Protoform	Jaco
2	4	Steve Rule	Racetech	Handout	Trinity	LRP	JR	Bolink	Jaco
3	7	Corey Heft	Leading Edge	Handout	Hefty Cells	GM	Futaba	Bolink	BSR
4	8	David Whitesel	—	Handout	—	—	—	—	—
5	6	Joel Winnicki	CRC Razor	Handout	Pr Match UMH	Keyence	JR	Protoform	Jaco Purple/Pink

4-CELL 1/10 STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	BODY	TIRES
1	1	Rick Talbot	ADX	Handout	SMC GP3300	Keyence	Futaba	Protoform	Jaco
2	3	Jamie Tennes	KSG	Handout	Pole Position	LRP	JR	Protoform	Jaco
3	2	Peter D'Agnolo	KSG	Handout	Wiplash	Keyence	—	Bolink	Jaco
4	4	Dusty Dean	Leading Edge T-2	Handout	SMC GP3300	Futaba	Futaba	Bolink	Jaco
5	7	John Zubak	Racetech Carpet-Pro	Handout	Pro-Match	LRP	Futaba	Bolink	TM

— Information not supplied by driver

Snowbird Nationals

1/12 GTP Mod. Top qualifier Josh Cyrul was fresh off his big win in the Touring Pro Mod class and was ready to dominate the 1/12 GTP Mod. The field spread out and things were pretty quiet. Josh had a great run and claimed another first-place trophy for the weekend.



Team Trinity/Losi driver Brian Kindwald get's his teammates car ready for a round of qualifying. Brian usually kicks up the dirt but played on carpet this weekend.



OVAL MAINS

4WD Touring Stock. To win the championship, Scott Meeks threw down the only 47-lap run in the Main. His win didn't come easy though; top qualifiers Ken Campbell, Butch Beebe, Dan Dolbert, Bill Pritchard and Scott Davis gave him a run for the money for 46 laps.

4-cell 1/12 Mod. In this race, top qualifier Phil Marabella laid down another instructional class on RC driving. He led through the first few laps with Todd Putnam in tow. Marabella and Putnam continued working the field until Kevin Koback assumed second when Putnam crashed in turn 4. Bob Smith was also on the move with a hard charge when he worked through Koback for second. Smith had Marabella in his sights until his batteries started to dump with only 15 seconds left in the race. Of course, Marabella took the win.

6-cell 1/10 Stock. A rough start shuffled the running order early in this race. Consistent driving by Troy Desmarais, Canada's Steve Salvas and Chris Lawson brought those drivers to first through third.

6-cell 1/10 Pro Mod. Top qualifier Andy McClellan's car was a rocket through the corners, and that allowed him a commanding lead after the start. A Snowbirds championship just wasn't in his cards; his car broke after it ran into a brick wall of "traffic." McClellan was out of the race, and that left Daryl Silva, who had flanked the leader throughout the race, to take the lead and then the championship.

4-cell 1/10 19-turn. This was the busiest oval class with 96 entries, and top qualifier Greg Honeycutt took the lead and never looked back. Consistent lap times that only dropped 0.2 second from start to finish earned him the championship. Eric Anderson was the only driver to remain on the same lap as Honeycutt, and he finished second.

4-cell 1/10 Pro Mod. Top qualifier Andy McClellan was in the zone during the Main and developed an early lead. Giving chase were Iowa's Danny Bartholomew and Greg Honeycutt. They managed to remain on the same lap, but McClellan proved too strong for his competitors, and he charged his way to a 3/4-lap win.



Mmm track food; this was the nicest setup I've ever seen. I highly recommend the pizza!

4-cell 1/12 Stock. With the green flag thrown, TQ Peter D'Agnolo led the pack with Indy's Sonny Brown, Mark Recio and Steve Rule in tow. All was well and running fast until the posse decided to make Corey Heft the whipping boy in turn 4 on lap 5. Every car going through the corner managed to get a piece of Heft's car, which made spectacular hang-time and crowd-pleasing action. D'Agnolo managed to stay clean, and he took the win with a cushy two-lap lead. Rule and Heft managed to work into second and third, respectively, with their good, consistent driving.

4-cell 1/10 Stock. This class had the second largest number of entries, and it was also one of the most competitive. From the sound of the tone, it was a race between TQ Rick Talbot and Jamie Tennies. Tennies assumed the lead after Talbot and Peter D'Agnolo tangled in turn 4, but he gave the lead back to Talbot after wrecking his car in turn 1. Talbot hung on to the lead for the remainder of the race, and he managed to put a lap on the field in the process.

WRAP UP

The Snowbird Nationals went very smoothly, which is impressive considering the record-breaking attendance. All of the races ran without a glitch, and it was cool to be able to walk into the Ramada in Orlando, FL at 2:00 a.m. and watch heated RC racing in one of the banquet rooms. Congratulations to Josh Cyrul for his wins in the Touring and 1/12 Mod classes, and to the other newly crowned Snowbird National Champions. We're looking forward to the next event. Who knows? Maybe there will be more than 800 racers at the 2004 event! See you all there. ■

THE NASCAR CONNECTION



Tony (left) checks out the lap times with Trinity's Jim Dieter.

The 2003 Daytona 500 was held the weekend after the Snowbirds race. Tony Stewart, the 2002 NASCAR champion, took time away from his busy race schedule to make the trip to Orlando so he could check out the RC action. Not only is Tony Stewart a NASCAR champion, he is also heavily involved in RC racing as well. Dodge Motorsports was also involved with the Snowbirds, and contributed greatly.

Keep your Engine Healthy!



6 rules to live by by Stephen Bess

Until miraculous new technology has been developed to prevent engines from wearing, we'll have to deal with factors that affect a 2-stroke RC engine's life expectancy. Given enough run time, the piston/sleeve pinch zone of even the best-maintained engine will wear away, the ball bearings that support the crankshaft will become sloppy, and the conrod bushing will develop more play on the crankshaft journal. Although these aspects of engine wear can't be avoided entirely, there are certain tricks that everyone can use to increase a 2-stroke engine's life above and beyond what's considered "normal."

Keep the air filter clean

The most basic maintenance chore—cleaning the air filter—is the most commonly neglected by average nitro enthusiasts. But without fresh air, a 2-stroke engine will not run well. An air filter protects against more than just mud and large objects; it traps the dust and sand that would otherwise "kill" your engine. The longer an engine is run with a dirty air filter, the greater is the risk of a damaging piece of debris being pulled through the filter into the combustion chamber. An air filter that is clogged with layers of dirt can also suffocate an engine and cause your tuning efforts to produce erratic results. It's simple to fix: when your air filter looks dark because it's dirty, clean or replace it.

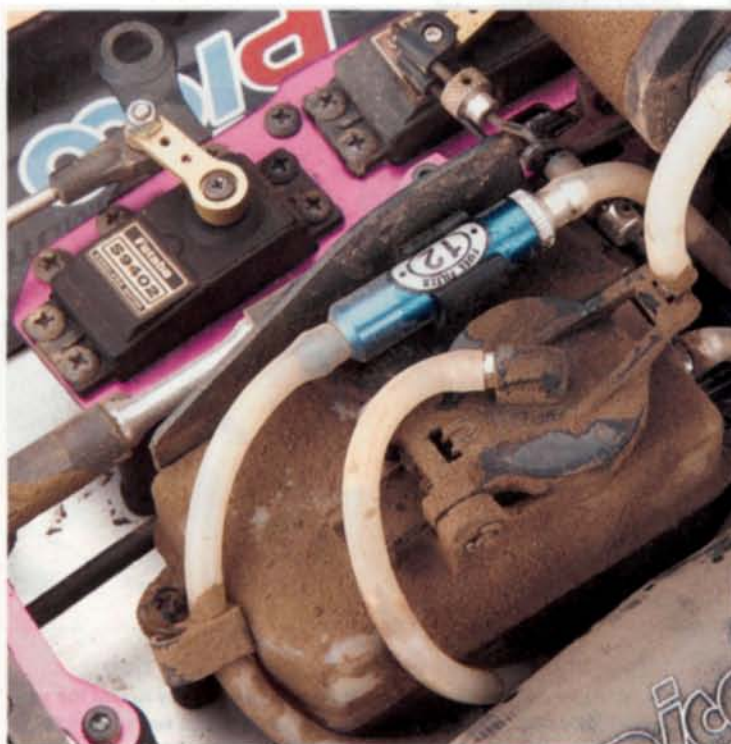
The filter on the left is new and freshly oiled, and the one on the right has only one day's worth of dirt buildup. The dirty filter can be saved with a vigorous washing and re-oiling. The importance of a clean filter can't be overstated.



Clean the glow-plug area before you remove the plug

One of the most common places for engine-killing gunk to accumulate on an engine block is inside the glow-plug cavity on the cooling head (especially true of off-road engines). The glow-plug opening on a 2-stroke's cooling head collects dust, mud and other contaminants. Unless you want all of that debris falling into your engine when you remove the glow plug, always clean the area around the glow-plug before you remove the plug from the cooling head. Allow the engine to cool, and then spray a generous shot of motor spray or compressed air onto the glow plug and the surrounding area. After that, you can safely remove the glow plug without any worries about grime damaging the engine's internal components.

Clean the area around the glow plug before you remove it. The debris that collects around the glow-plug opening could fall into the engine when the glow plug is removed. A shot of nitro-engine cleaner or compressed air should do the trick; just be sure to wait until the engine is cool to use the spray.



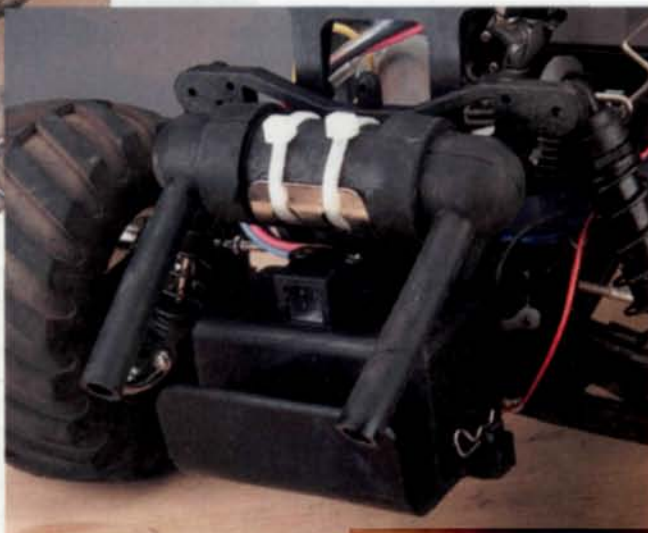
Install a fuel filter. Yes; your fuel tank may have a built-in filter, but an in-line filter is insurance against dirt that could have sneaked past the internal filter. It costs only \$5 to \$10 for a filter, but a piston and sleeve cost \$50 to \$100. Some racers install filters on the pressure line from the tank so that dirt can't enter the tank through the tuned pipe.

Avoid losing control

Even the best-protected engines will fail if allowed a full-speed runaway caused by losing control. Radio glitches and signal loss can cause a runaway in which your engine may run wide-open for too long, and unfortunate outcomes may be stretched or broken conrods, broken crankshafts, or seized piston/sleeve sets. At the very least, an extended runaway will stress your engine's components and shorten its life.

To avoid having a runaway, always keep your transmitter and receiver batteries fresh or fully charged. Between long runs, top off your rechargeable packs or replace weak alkaline batteries to avoid the radio-signal loss that can trigger a runaway.

A runaway can also be the result of a mechanical failure. To avoid this, install a throttle-return spring. Throttle linkages can break or pop off and servos can die and consequently hold the engine's throttle wide open. A throttle-return spring is cheap insurance against expensive and potentially dangerous engine damage.



Use new or fully charged batteries for your electronics. Depleted batteries are probably responsible for more damage to nitro-powered cars than anything else. If you run with alkaline batteries, replace them as soon as they show signs of poor performance, and if you use rechargeable batteries, keep them charged.



Above: pushing on the air filter to stop the engine is a no-no. Pressing down on the filter greatly increases the velocity of the air that passes through the smaller areas of the filter, and that increases the chance that dirt and grime will be sucked through the filter and into the fuel.

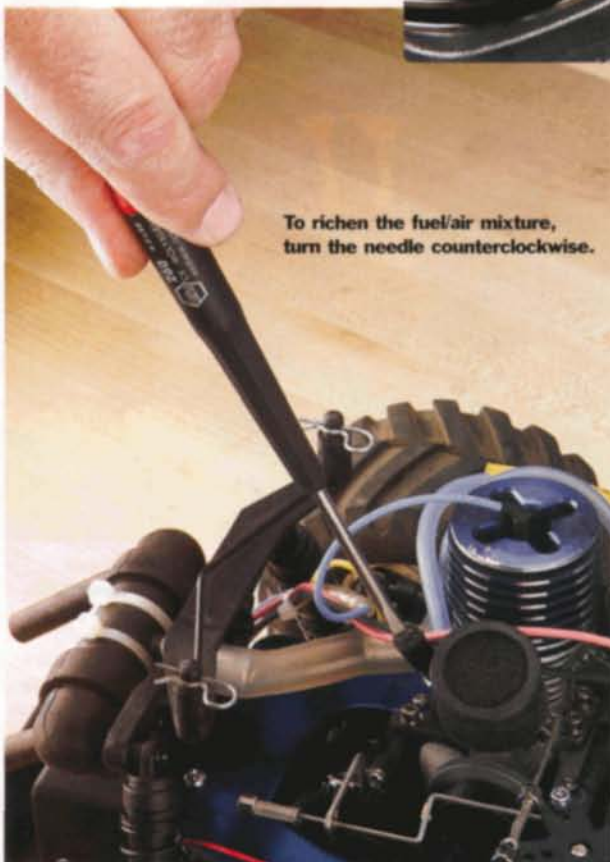
Right: if you can't (or just don't want to) bump the flywheel with a shoe to stop the engine, yank out or pinch the fuel line instead. The engine will quickly be starved of fuel and will stop in a few seconds.



Stop your engine correctly

Never push on an air filter element to stop your engine. When you want to stop it before the gas tank is empty, touch the flywheel with the tip of your shoe, or yank out or pinch the fuel line. Some hobbyists recommend that you stop the engine by suffocating it, i.e., by pushing on the air-filter element to prevent the engine from breathing. Don't do it; that method pushes filter grime inward, and it might end up in the combustion chamber.

Don't plug the exhaust tip to stop the engine. It forces a lot of pressure into the fuel tank and floods the engine.



When in doubt, tune your engine to run slightly rich

Inexperienced engine tuners can increase their engines' lives by tuning the carburetors just slightly rich. "Slightly rich" means an engine has been tuned for ideal performance and then richened by turning the high-speed needle an $\frac{1}{8}$ turn clockwise. Tuning an engine to run too lean (and consequently too hot) will prematurely wear components because there will be insufficient lubrication. Tuning it slightly rich involves keeping engine temperatures within a reasonable range to prevent premature wear; 200 to 270 degrees Fahrenheit is generally considered acceptable.

To do this, you must be able to check your engine's temperature. Many nitro racers check the engine's temperature with the "water-drop" test. When an engine has been ideally tuned, water will sizzle on the cooling head for a few seconds before it evaporates. When the engine has been tuned to run too rich, the water doesn't sizzle, and when an engine has been tuned to run too lean (it is too hot), the water evaporates immediately. If you don't own a temperature gun and aren't comfortable with the accuracy of the water-drop test, tune your engine to what you consider to be its best performance, and then turn the high-speed needle (richen) $\frac{1}{8}$ turn clockwise. The extra lubrication this provides will protect your engine during extended runs and will help prevent overheating and seizing.

CONCLUSION

Following these tricks will help you steer clear of the most damaging mistakes, and they will also ensure that your engine lasts longer and performs well. When you have mastered these simple steps, you'll be ready to take on performance-related engine tuning and maintenance. ■



Glitch Busters!

Simple secrets for strong signals by Nick Sava

All RC vehicles suffer occasional glitches. But if you're racing, you can't afford a single hiccup from your radio gear. When it comes to glitch prevention, it's often the simplest steps that save the day. If you experience interference problems, you'll probably find a fix right here.



ELEVATE THE ANTENNA ABOVE THE CHASSIS. On many RC cars and trucks, the receiver's antenna wire is fed through a hole in the chassis or a metal plate before it enters the antenna tube. Running the antenna alongside a conductive material, such as graphite or aluminum, may cause radio interference. Your best bet is to make a small hole in the antenna tube that's just big enough to feed the antenna wire through, about $\frac{1}{2}$ inch above where the antenna tube is attached to the antenna mount. Use a sharp hobby knife to make the hole, then feed the antenna wire directly into the hole and all the way through the tube. Doing so will lift the antenna wire off the chassis or upper deck.

Many Team Losi racers, such as Brian Kinwald and Matt Francis, use this tip to lift the antenna wire. Just be sure not to make the hole in the antenna tube too big, or you'll weaken it.



[ALUMINUM RECEIVER BATTERY BOX]



[STAINLESS STEEL SCREW SET]



INCLUDES: 130+ PIECE 18-8
STAINLESS STEEL ALLEN HEAD
SCREWS AND WRENCHES

EX TREME PERFORMANCE + EX TREME STYLE

RC TRI X · 1-866-4RCTR IX



AVAILABLE IN: -15%, STOCK, +15% & +30%



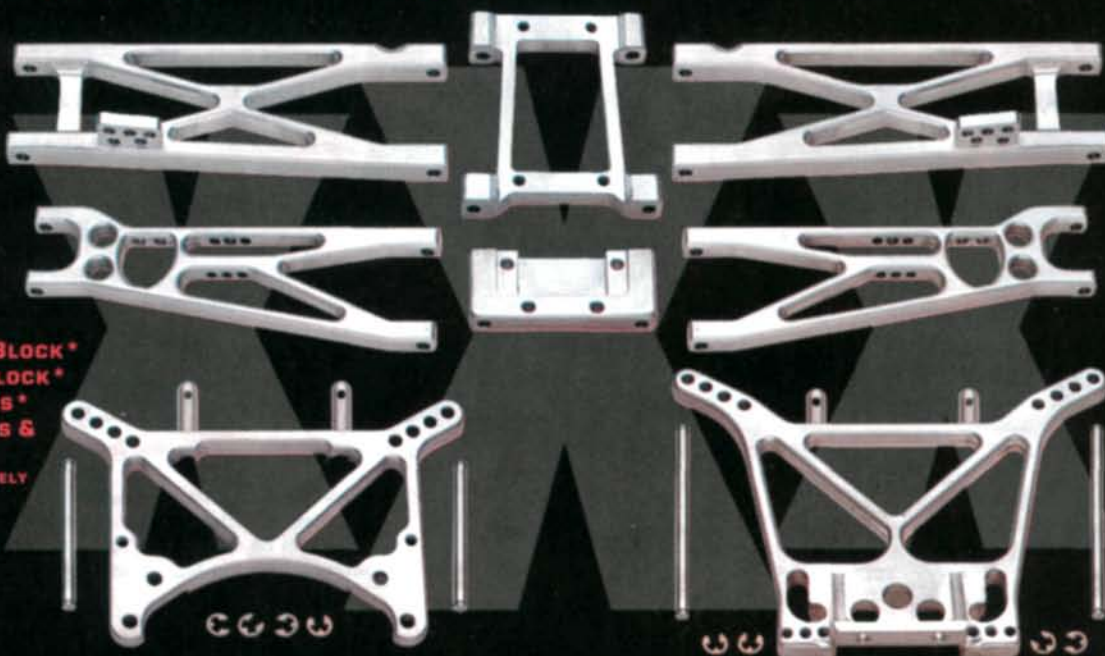
[REPLACEMENT SPRINGS] 2 PER PACKAGE

AVAILABLE IN:



[FINISHES]

[ALUMINUM "A" ARM AND SHOCK TOWER SET]



SET INCLUDES:

- 2 FRONT ARMS
- 2 REAR ARMS
- 1 FRONT PIVOT BLOCK*
- 1 REAR PIVOT BLOCK*
- 2 SHOCK TOWERS*
- 4 SS HINGE PINS &
- 8 "E" CLIPS

* AVAILABLE SEPARATELY

The Maximum E-Maxx!

The Traxxas E-Maxx is unquestionably the highest performance RTR electric monster truck you can buy; which other truck combines dual 550 motors and a 14.4V power system with shift-on-the-fly capability? But just because the E-Maxx rips out of the box doesn't mean you can't make it go even faster; in fact, the Big E is just as hop-uppable as the T-Maxx; there are many ways to make this hot electric even hotter—see for yourself.

Parts list

CHASSIS

HARDCORE RACING COMPONENTS

- Titanium skidplates (F/R)—item no. HCR-03081/HCR-03091, \$42 each.

TRAXXAS

- Blue-anodized aluminum battery hold-downs—3923X, \$34.

DRIVE TRAIN

MIP

- CVD kit for Traxxas 2.5 Maxx—1525, \$65.
- CVD center drive kit for E-Maxx—1495, \$55.

ROBINSON RACING

- Lightened spur and double-disc slipper kit—8166, \$32.50.
- Hardened diff-gear set—8590, \$42.50.

TRAXXAS

- Lightweight input shaft/drive-gear assembly—3993X, \$14.50.
- Lightweight idler gear shafts—3995X, \$3.50.
- Lightweight aluminum output shaft—3994X, \$12.

SUSPENSION AND STEERING

PRO-LINE

- Maxx Performance steering kit—6019-00, \$48.

RPM

- 2.5 Wide Style A-arms—80078, \$11.95.

TRAXXAS

- Hard-anodized aluminum pivot balls—4933X, \$20.
- Aluminum Big Bore shocks—4962, \$99.99.

ELECTRONICS

AIRTRONICS

- MX-3 radio—90510, \$117.99.

TRINITY

- Gold Peak 3300 Power Brick batteries (24 loose cells)—EP0003, \$140.

W.S. DEANS

- Ultra Plugs—1300, \$3.25/set.

TIRES AND RIMS

PRO-LINE

- Big Joe 40 series tires—1103-00, \$33/pair.
- Velocity 6-wheel—2664-01, \$22/pair.
- Paqman tires—TG05C, \$27.99/pair.

All prices vary with dealer.



PHOTOS BY WALTER SIDAS AND PETE HALL



E-MAXX HOT MODS



strength



performance



looks



strength



performance

TRANSMISSION GEAR UPGRADES. An adjustable slipper clutch protects the transmission's internal gears, but the stock slipper's adjustment range is limited. Replace the stock slipper with Robinson Racing's; it has two slipper pads and aluminum slipper discs that allow you to tune for just about any condition. Go super-tight for rock climbing, or loosen the clutch for racing applications.

The gears on the top shaft of the tranny take a lot of abuse, and that wears them out prematurely. Replace them with the heavy-duty input shaft/lightweight gear assembly from Traxxas; they're much more durable than the stock plastic gears. You can also reduce the truck's weight by replacing the idler gear shafts with aluminum ones from Traxxas. Traxxas also offers a lightweight output shaft that reduces the rotating mass of the tranny and allow the motors to spool up more quickly.

DRIVE SHAFTS. The E-Maxx's stock plastic telescoping drive shafts may twist under load. A twisted drive shaft won't telescope smoothly and will cause the suspension and drive train to bind. This slows the truck, and it won't handle bumps as well as it should.

I replaced the shafts with CVDs from MIP. MIP's CVDs are very durable and rebuildable, and MIP offers them for the original E-Maxx as well as the newer Wide-Maxx suspension.



strength



performance

PINION GEARS. Depending on how you use your E-Maxx, first gear may accelerate too abruptly and make the truck difficult to control. Many racers don't even use first gear because it makes the front tires come off the ground, and it isn't easy to steer when the tires are in the air! Try

replacing the stock, 15-tooth pinions with 18-tooth units, such as these from Traxxas; the truck will be much easier to control off the line, and you'll pick up some top-end speed, too.



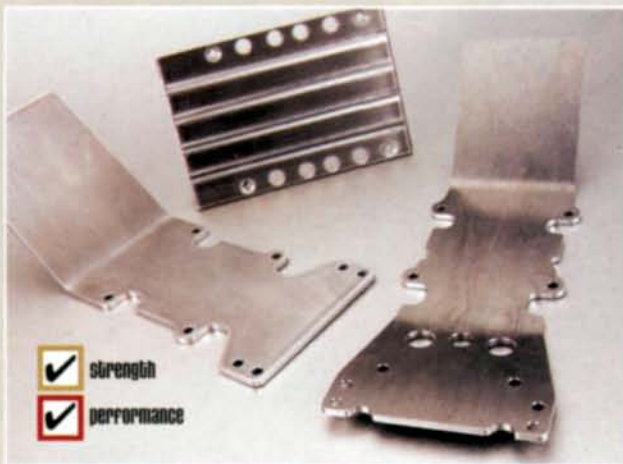
strength



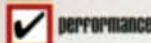
performance

ALUMINUM SKIDPLATES.

Plastic skidplates protect the underside of the truck well, but after hitting rocks and other off-road obstacles, they become scuffed and can split. For more durability, go with a set of metal skidplates like these from New Era; they'll never split, and if you happen to bend one, you can simply bend it back into shape and keep going. If you plan to race your E-Maxx, stick with the stock plastic skids because they keep the truck's weight down.



strength



performance

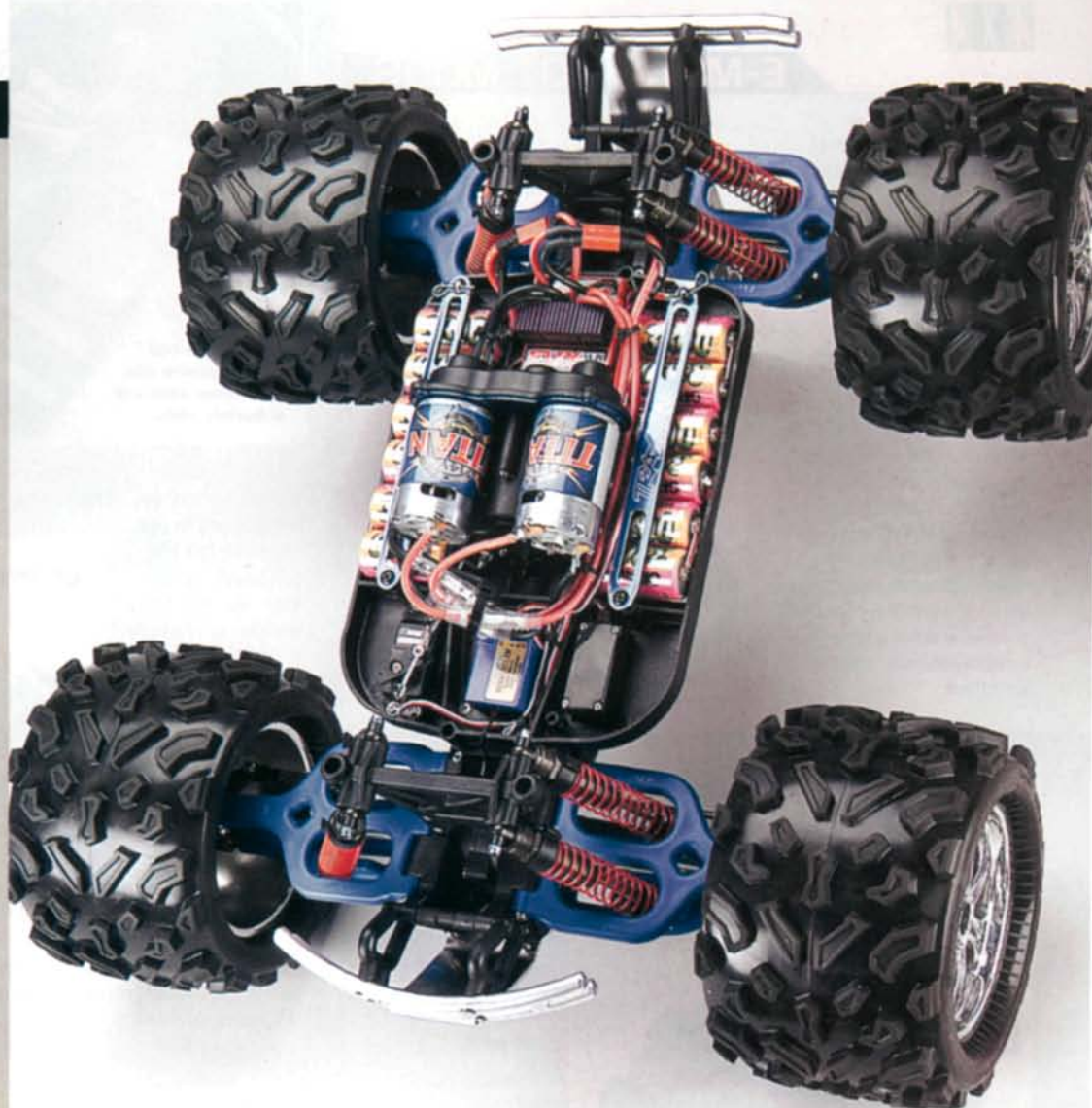
HEAVY-DUTY DIFF GEARS. The E-Maxx's cast ring and pinion gears can handle a lot of abuse, but if you do eventually smoke them, stronger replacements are available from Robinson Racing. They're machined of hardened steel for bombproof reliability, and shims are included so you can fine-tune the mesh of the pinion and ring gear.



strength



ALUMINUM SHOCKS. The caps on the stock plastic shocks may separate under heavy stress. For best performance, replace the stock units with a set of aluminum shocks. Tons of companies make them; I chose a set of Traxxas Big Bores for my truck. In addition to their superior strength and super-slick bores, their titanium-nitride shafts operate with less friction than the stock units.



YOU DON'T HAVE TO IMPLEMENT ALL THE CHANGES AT ONCE TO SEE AN IMPROVEMENT; JUST TACKLE THOSE YOU THINK WILL MOST BENEFIT YOUR TRUCK.

LONGER SUSPENSION ARMS.

After it released the new 2.5 TRX T-Maxx, Traxxas updated the E-Maxx with some of its parts. One of the biggest improvements is to its suspension arms; they're wider and have more mounting positions available for the shocks. This makes it easier to tune the suspension for the track or backyard. If you have an original "short-arm" E-Maxx, don't worry; the longer arms are available through Traxxas, or you can get wide molded arms from RPM. RPM's arms are the same length as the latest Traxxas parts and come in a variety of colors, too.



LOW-RESISTANCE BATTERY CONNECTORS. The batteries in the E-Maxx get very warm because the motors and ESC draw some serious amps. The wires and connectors also get hot—in some instances, hot enough to weld themselves together. I replaced the stock connectors with heavy-duty connectors from W.S. Deans. They're very efficient; they won't heat up as much as the stock connectors, and the electrical system will get more power from the batteries.



E-MAXX HOT MODS

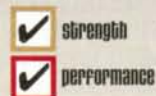
FM RADIO. The 3-channel radio that comes with the E-Maxx is fine, but it's available only on 27MHz, and that limits you to the six available channels. If you run your truck with a bunch of other guys, you can reduce the chance of a frequency conflict by switching to a 75MHz radio; the 75MHz band has three times as many available frequencies. A wide range of radios is available, but keep in mind that you need a 3-channel system to shift between first and second gears. The Airtronics MX-3 radio features an easy-to-operate toggle switch for the third channel and has a ton of features to enhance control of your truck.



HIGH-PERFORMANCE TIRES. The E-Maxx's stock chevron tires deliver an aggressive monster-truck look and are great for backyard duty, but there are better options for high-performance driving. Traxxas, TRC Off-Road and Team Orion offer a variety of treads to suit your sense of style and need for speed, but I went with Pro-Line's new 40 Series Big Joe design. The 40 Series tires use a wider, taller rim to reduce sidewall height, and they "pooch out" for more consistent handling and less roll-under when cornering.



LIGHTWEIGHT PIVOT BALLS. Anything you can do to reduce your truck's weight will make things easier on its drive train and electronics. Replace the pivot balls with aluminum ones from Traxxas; these pivot balls are lightweight, and their hard-anodized finish keeps them operating smoothly, even after a dusty or muddy driving session.



ADDITIONAL BATTERIES. The 12 cells that power the E-Maxx pack a wallop, but can you imagine what the truck could do with 14 cells in it? Believe it or not, the stock EVX ESC can handle 14 cells. Now, you might be wondering where to strap on those two extra batteries when the chassis is set up to run a pair of 6-cell stick packs. First, you'll need a pair of 7-cell "hump" packs;

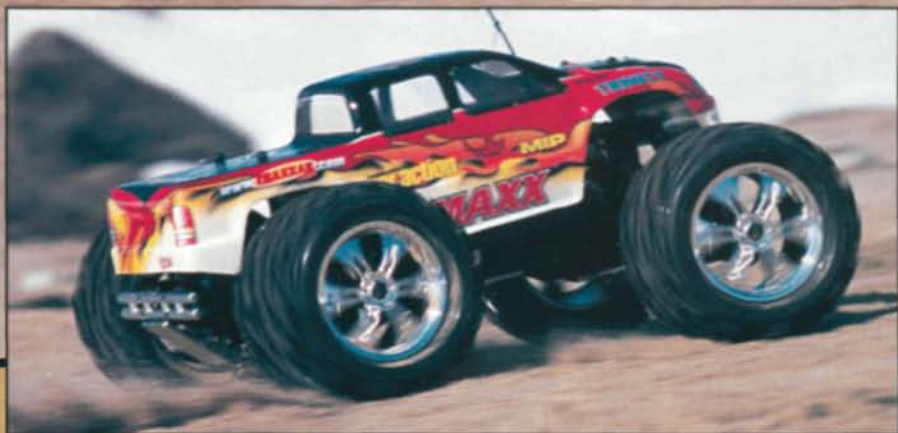


these have the extra battery on top of the pack. When you build the pack, place the seventh battery in the middle of the pack so it doesn't affect the truck's front-to-back balance. Next, use a rotary tool and a cutoff wheel to remove one of the support tabs from the middle of the battery cradle in the chassis. When you install the battery in the chassis, place the pack in the tray with the extra battery cell facing downward.

ALUMINUM BATTERY HOLD-DOWNS.

The E-Maxx motors and ESC draw a lot of amperage, and the batteries get very warm (and take a beating) when you run the truck. You can help keep the batteries' temperature down by replacing the stock battery hold-downs with these aluminum hold-downs from Traxxas. The aluminum acts as a heat sink to draw away some of the batteries' heat.





Performance

I've put in a lot of time behind the wheel of the stock T-Maxx, and what a difference in performance all my fresh hop-ups made! The new suspension alone made a huge difference in the truck's attitude. The wider arms greatly improve handling and result in a flatter attitude in the corners and a more predictable feel as the truck reaches its limits. The taller gearing I installed made a big difference in the truck's manners, as well; it still accelerates hard, but it doesn't wheelie instantaneously. Wheelies are fun, but they won't win you any front-straight drag races. You don't know how nice the Robinson Racing slipper clutch is until you use one. Now I can loosen it for racing, and I don't have to worry about melting the spur gear; this is especially important when channeling the power of 14 cells and dual 550 motors into a set of high-traction tires. The 40 Series Big Joe tires really dig in and look awesome on their Velocity 6 wheels, but the best part is how they handle; the low-profile sidewalls make the treads feel much more planted. The E-Maxx is great stock, but it's even better with a few mods!

TALK TRUCK!

Send your "4x4" questions and comments to Kevin Hetmansk, kevinh@airage.com.

SOURCE GUIDE

AIRTRONICS (714) 978-1895; airtronics.net.

HARDCORE RACING COMPONENTS
(661) 294-5032; racinghardcore.com.

MIP (626) 339-9007; miponline.com.

PRO-LINE (909) 849-9781; pro-lineracing.com.

ROBINSON RACING PRODUCTS
(209) 966-2465; robinsonracing.com.

RPM RC PRODUCTS (909) 393-0366;
rpmrcproducts.com.

TRAXXAS CORP. (888) 872-9972; traxxas.com.

W.S. DEANS (714) 828-6494; wsdeans.com.

Monsters, monograms & metal

One of my personal highlights during last year's racing season was taking the win at the Radio Control Monster Truck Racing Association's (RCMTRA) invitational race at the Westchester Radio Aero Modelers (WRAM) show in White Plains, NY. Naturally, I was nervous about defending my title, but for me it's all about the look, and I had to have a wilder ride than last year's hybrid Caddy. I decided to keep the exposed-metal theme of last year's blue-and-gold pickup but go with a cleaner, racier overall look for my new Thunder Tech Ripper truck.



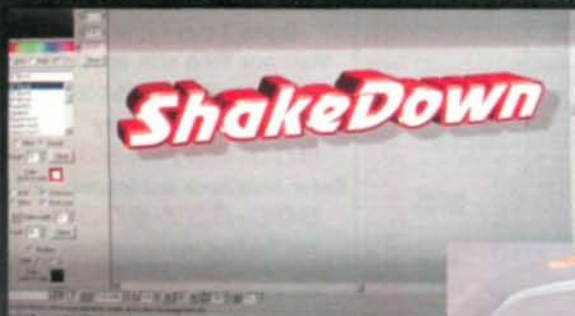
After I had done the prep and the window masks, I started to add details to the body. The overspray film is an open canvas for creativity, so grab a handful of colored Sharpies and have at it! If you don't like what you come up with, Body Blast it off and try again. You can recover from a bad plan, but a bad paint job is cruelty to Lexan. The scheme I ended up with uses the bold Dodge racing colors, a large "sunken" logo for the truck's sides and a few exposed metal sections.

Low-effort logo

1. I created the "ShakeDown" logos (named in honor of an old Bob Seger song) using a computer program called Xara3D. This software lets you add depth and highlighting to letters for cool, 3D-look text and logos.

When I was satisfied with my design, I printed the logo on a color printer. As an alternative, you could use ink-jet decal paper, or if you don't have access to a color printer, you could take the file on a floppy disc to a print shop. Considering

the looks that you can create and that the Xara3D program costs only \$39, I think you'll agree that it's a bargain.



2. Trim the logo graphic as closely as you can so that the paper's white portion is no longer visible; save the trimmed scrap for later.

Find the logo's center, and test-fit it to the inside of the body. Make a few reference marks on the body to help you align the logo in the next step.

Apply a coat of XXX-Main picture glue to the face (front) of the graphic, and carefully position it inside the body. If any excess glue oozes out, leave it alone until it has become tacky. Then carefully cut around the logo's outline with a hobby knife, and peel off the excess glue.



3. Use the saved scrap sheet cut from around the printed logo to help create a border for a simple "drop shadow." Place it on the body just below the logo and, with a light hand, concentrate a spray of tint around the lower edge to make a subtle, but convincing, shadowed edge. I then backed the logo with masking and left an inner jagged portion masked for metallic detail.

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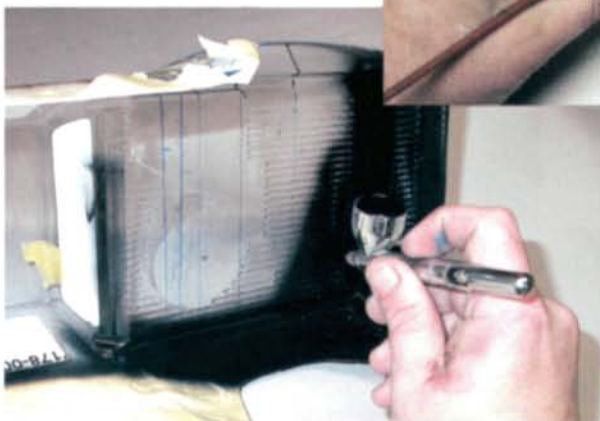
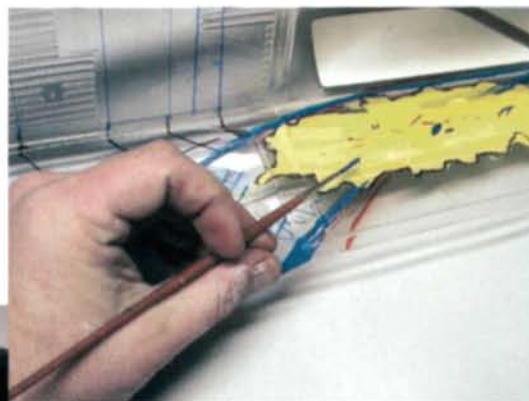
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BODY SHOP

Before I painted the colored sections, I masked the raised hood section and other sections on the hood, the roof and the tailgate with torn pieces of tape so I would end up with a jagged-edge look. Following the marker guidelines I had made on the overspray film, I brushed a narrow, jagged separating stripe with Fastblue and set the body aside to dry.



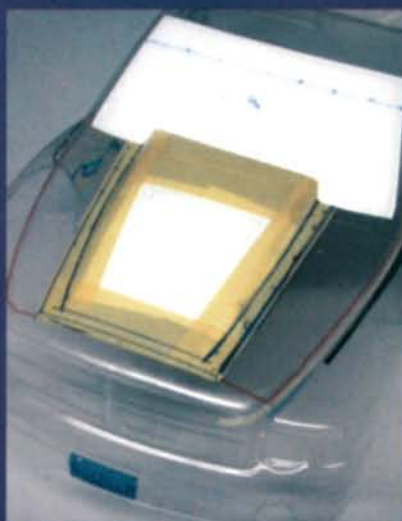
I used masking tape to separate the colored sections, and this left the panels exposed individually for me to paint them; I worked from the back of the truck forward. When I had laid all of the color, I removed the jagged-edge tape so I'd be able to add the metallic details.



METALLIC DETAILS

I wanted the hood to look as if it had been added by the "crew" at the race shop at the last minute without time to paint it. I used a toothpick to dab white highlights for the corners and followed with weathering streaks of Fastint.

I applied Alclad II (Stainless Steel and Chrome) randomly to complete the distressed look. The overall effect is pretty cool!



An easy way to add "rivets" is to apply AutoGraphics stickers or, as you'll see in the next section, you can create your own painted effects.

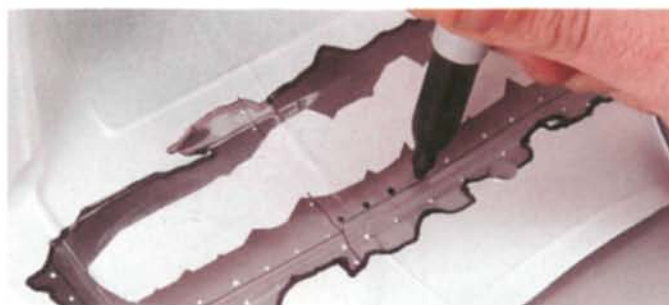
That sunken feeling

1. On the inside of the body, use a fine-point permanent-ink black marker to accentuate the border along the "torn-away" sections of paint. To create the look of exposed sheet metal, I drew straight, intersecting panel lines on the inside of the body with the marker and the edge of a business card.

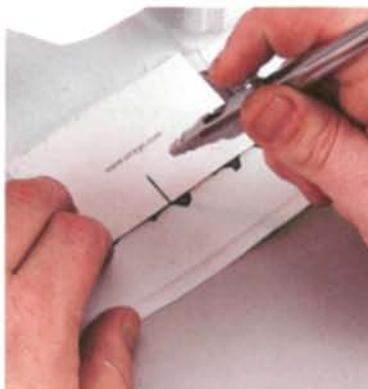


2. Create the "rivets" with very small, evenly spaced dabs of white paint on the inside of the body at the edges of the panels; a paper clip that has been dipped in Faskolor works really well for this.

3. When the white paint dabs are dry, mark each one with a black permanent-ink marker "dot" that is slightly larger in diameter than the white dots.



4. For authentic-looking "weathering," I added subtle highlights that run vertically beneath each dot. I used a V-shape business-card template, Fastint mixed with silver and an airbrush set on low pressure. This step creates the illusion of rust-streaked metal. I also applied the shadow mixture to the panel's upper border, and a few random streaks add a distressed look.



5. To finish the panel, spray the remaining open section with silver paint or Alclad II (Aluminum).

I've always liked the bodies that look cool on the track, but when examined up close, they also have subtle accents that capture the eye.

FRESH PAINT

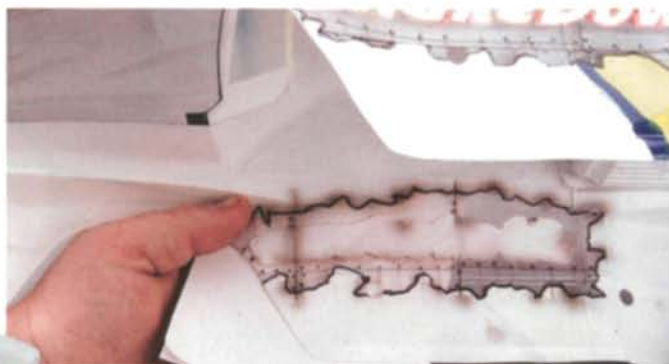
Mike Burrows, Oak Park, IL
You've seen drip schemes before, but you've probably never seen one that looked as if the car had taken a turn marshal out

at the ankles! Mike achieved the "killer" looks by first applying four coats of liquid mask and then drawing the design on the outside of the body. Mike's secret for masking the little circles was to use a hole punch and leftover scraps of vinyl masking.

He cut and removed the outside of the design and then shadowed the drips using Fasppearl Charcoal. He followed that with a white fill and backed the body with silver to keep things opaque. When he removed the drip masking, he added the white glistening highlight and then the red fill. According to Mike, "The decals are what really sells the 'splat' look." He applied all of the stickers in the typical way, but then he carefully cut away the parts "covered" by the drip. If you would like to see more of Mike's amazing work, visit the "RCZone" bulletin board (rczone.com) and look up mad_man20 in the painting forum.



Do you have a sharp, uncluttered photo of your best paintwork? Send it in! Explain the types of paint, products and techniques you used to finish it. Be sure to include your full name and address and your email address if you're online. For information about sending electronic images, check out www.caraction.com. Send print or slide photographs to "Body Shop," RC Car Action, 100 East Ridge, Ridgefield, CT 06877, USA.



Metallic effects, when used sparingly, could be just the thing to kick up your next body. It isn't a difficult technique, and it's actually kind of fun, too. Whether your next body looks like an escapee from the local tech school's metal shop or is a simple one-color scheme, as long as you're pleased with the result, that's all that matters. Oh, by the way; in the RCMTRA invitational at the 2003 WRAM show I finished second to my coworker, Kevin. Have fun no matter where you finish or what you're spraying, but by all means: go paint something!

CONTACT THE BODY SHOP

Send your "Body Shop" questions and comments to Bob Hastings, bobh@alrage.com.

SOURCE GUIDE

ALCLAD II distributed by Schumacher USA (813) 889-9691; racing-cars.com; alclad2.com.

ARTTOOL (503) 253-7308; medea-arttool.com.

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THUNDER TECH RACING (815) 467-0621; thundertechracing.com.

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XXX-MAIN RACING (877) 744-6793; xxxmain.com.

5 steps to first-race success

As the old saying goes, "To finish first, you must first finish!" That cliché couldn't be more true for nitro racing; many otherwise fast cars lose precious laps when the driver must pit to restart the engine, or worse, the car gets parked mid-race with an engine failure and earns a DNF—"did not finish." Although it's impossible to get rid of the chances of a DNF completely in any type of racing, it takes only a few simple steps to eliminate the most common causes of mid-race engine failure. Follow the five steps outlined here, and your engine will be ready to go the distance.

1 INSTALL A FRESH GLOW PLUG. Glow plugs take a beating, so it's no big surprise that they will occasionally burn out at the most inopportune times. Given the nature of a glow plug's job—to keep a metal coil burning brightly under ridiculously high combustion temperatures—it's amazing that coils last as long as they do. To avoid suffering a mid-race glow-plug-related failure, it's always wise to install a new glow plug before any "big" race. A fresh plug will endure the rigors of racing much better than a worn-out plug could.

A new glow plug is also cheap insurance against a race-ending flameout, and it will allow you to concentrate on the race rather than worry whether your plug will last. Before you take out the old plug, blast away any grime that has accumulated around the glow-plug hole with a generous shot of motor spray or compressed air. When the area is clean, replace the old plug with a new one that's of exactly the same type. Using a different brand or style of glow plug—one perhaps rated with a different heat range—will throw off your engine's tuning, so always carry at least one extra plug of the type that's in your engine.

Replacing your glow plug can often mean the difference between winning and losing a race. The used plug (right) shows signs of an engine having been run too lean, as evidenced by the coil that's compressed into the glow-plug housing. Note the coil's position in the new glow plug (left).



AVOID LOSING VALUABLE WARM-UP TIME BY STARTING AND THEN REVVING YOUR ENGINE IN SHORT BURSTS.

2 INSTALL A NEW AIR FILTER. Just like our lungs, nitro engines work best when they breathe unobstructed, fresh, clean air. Your engine's first line of defense against airborne contamination is its air filter; a dirty filter will suffocate your engine and increase the chances of dirt being drawn into it. Before you place your vehicle on the track for a race, replace the dirty filter element with a clean one.

Most brand-new filter elements must be saturated with filter oil before they're installed. The best way to do that is to put the element in a plastic bag (or the bag it was originally packaged in) and pour air-filter oil into the bag. Work the oil into the filter element by squeezing and moving it inside the bag to distribute the filter oil evenly; the element will then be ready for you to install.

A new or clean air-filter element can make a significant difference in engine performance by allowing the best possible airflow. Dirty filters can choke horsepower out of an engine because less air means less fuel, and less of both means a loss of power.



PHOTOS BY PETE HALL



3 START THE ENGINE AND "CLEAR IT OUT."

If you compete at a track that has computerized lap timing, the race director will probably allow a few minutes of warmup before every heat. Experienced nitro racers start their engines a few minutes before the warmup and then carry their vehicles to the track for the warm-up laps. The engines must be started with the radios turned off to avoid their interfering with the vehicles already on the track. Manually work the throttle by pulling on the throttle linkage.

Just be sure to do so with a good grasp on the car, and make sure that loose clothing and body parts are clear of the spinning wheels. To keep the wheels off the ground, it's usually best to leave the car on a starter box or prop it up on a piece of wood.

Avoid losing valuable warm-up time by starting and then revving your engine in short bursts to "clear out" any fuel buildup in the carburetor or combustion chamber. Cold engines will run rich until they've heated up, and it isn't unusual for a racer to start an engine, allow it to idle for only a few seconds and then plop his vehicle on the track, only to have the engine die when he applies the throttle. When you start your engine, rev it up a few times to "clear it out," and continue to blip the throttle until your vehicle is on the track. This method will allow you to warm the engine in the pits until you can drive it around the track to warm it completely.

Get your engine started and "cleared out" before the warm-up period for your heat or Main begins. You'll have to "blip" the throttle by hand because you can't use your radio until your heat is actually on the track. Having some heat built up in the engine when your warm-up period begins will give you more time to tune the engine instead of waiting for it to come up to full temperature.

4 TUNE YOUR ENGINE SO THAT IT WILL IDLE FOR AT LEAST 5 TO 10 SECONDS WITHOUT

STALLING. Your engine should be able to idle for at least 5 seconds without stalling. Don't attempt to tune a cold engine in the pits because its tuning requirements will change as the engine warms up. Wait until the engine is warm before you tune it. If your engine doesn't idle for at least 5 seconds, it's likely to flame out at the start or during the race. Adjust the low-speed needle and/or idle screw to ensure that this doesn't happen.

To check your engine's low-speed-needle setting, allow the engine to idle when it has warmed up. If it slowly loses rpm and quits, the low-speed needle is set too rich. To lean the air/fuel mixture, turn the low-speed needle $\frac{1}{8}$ turn to the right (clockwise), and restart the engine. Continue to tune the engine in this way until it idles steadily for at least 5 to 10 seconds.

If you bring the car to a stop and the idle speed slowly increases until the engine cuts out, that's a signal that the low-speed needle has been set too lean. Richen the low-speed needle $\frac{1}{8}$ turn (counterclockwise), and restart the engine. Run your vehicle for a lap, and then bring it back in to recheck the idle. When the engine idles steadily, you're ready to complete the warmup.



4. When the engine has been warmed up, park your car with the engine running and let it sit without any throttle input. The engine should idle for at least 5 to 10 seconds without a significant change in engine rpm. Bart Simpson watch not required.

NEW FOR NITRO

MIP 360 stinger for Triple-XNT

MIP now offers its popular 360 stinger pipe and manifold for the Team Losi Triple-XNT. This unique exhaust system employs a straight tuned pipe with a rear-exit stinger (instead of the conventional side-exit stinger). The MIP stinger was designed to be more effective because of the smoother pathway it offers exhaust gases.

The Stinger kit includes MIP's trademark shiny tuned pipe, a 360-degree header for side-exhaust, small-block engines, a new pipe mount, fuel tubing, an exhaust coupler, a header gasket and installation hardware. The 360 Stinger kit (item no. 3081) fits all Losi Triple-XNT trucks, from the RTR to the Adam Drake Edition.

MIP (626) 339-9007; miponline.com.



WOLFPACK RADICALS Option parts for HPI shaft-drive vehicles



Wolfpack Radicals now offers exciting new option parts for HPI shaft-drive vehicles. Its Big Block Conversion allows you to install big-block engines in HPI Nitro RS4 3, Nitro RS4 MT and Super Nitro RS4 Rally vehicles. The kit includes universal engine mounts that accommodate small-block

and big-block engines and a vented flywheel. These adjustable engine mounts also allow the use of Centax-style clutches.

Wolfpack also offers a heavy-duty, clutch-type, 2-speed transmission for all HPI shaft-drive vehicles. This custom 2-speed allows smooth, consistent shifting time after time, and it can stand up to the power of a big-block engine.

Wolfpack Radicals (718) 445-6541; wolfpackradicals.com.



5 CHECK YOUR TUNING AND TEMPERATURES AFTER THE WARMUP. When the engine has warmed up, you should check its performance and temperature before the race. Assuming the engine had plenty of time to warm during your pre-race laps, check its performance. For long Mains, you will want to run with a fuel/air mixture that's slightly rich because the engine will lean out over the course of the race.

You should check the engine's temperature. If you have access to a temperature gun, make sure that the engine's temperature is less than 250 degrees Fahrenheit. In general, anything above that will increase the risk of overheating and flaming out. Although you should never tune to a specific temperature range, as a beginner, you should monitor your engine's temperature and tune it away from excessively hot running.

If you don't have access to a temperature gun, you can gauge an engine's temperature by putting a few drops of water on its cooling head. If the water sizzles for a few seconds before it evaporates, the engine's temperature is in an acceptable range, and retuning isn't necessary. If, however, the water dances on the cooling head and evaporates almost instantly, the engine has been tuned to run too lean and is overheating (probably hotter than 270 degrees Fahrenheit). In this case, richen the high-speed needle $\frac{1}{4}$ of a turn (counterclockwise) and run a few more practice laps. Then bring the engine back in and check its temperatures once more. Repeat these steps until your engine runs consistently well at an acceptable temperature. ■



Make a final check of current mixture settings (be sure the engine isn't bogging anywhere in its rpm range) and check the engine temp before you head out to the starting grid. Engine temps will rise during a long 30- to 60-minute Main, so your engine should finish the warm-up laps a little cool and rich.

Q My engine refuses to run properly, but I know it isn't worn out. I have checked its compression; it's difficult to turn over, so I know that compression is good. What's so weird is that I've tried fresh glow plugs, a new fuel line and even a new fuel tank, but the engine stalls when I give it gas; it has even backfired a few times! Several experienced racers at my hobby shop have checked the tuning, and they're at a loss, too. I'm using 30-percent-nitro fuel that I've had only for a few months, and it looks OK in the bottle, but it isn't as dark a blue as my friend's bottle of the same fuel. Could this be my problem? I don't want to buy another bottle of fuel if I don't have to, but I can't get my engine to run right, so I'm willing to try anything.

A Your problem sounds like a classic case of contaminated fuel. Nitro fuel is "hygroscopic," which means that it attracts and absorbs moisture from the air. If it's stored in a moist area, nitro fuel can even absorb atmospheric moisture through a plastic bottle. It's likely that your fuel has water contamination and consequently can't burn properly in the combustion chamber. The water changes the composition of your nitro fuel and will quickly extinguish the glow plug's coil; that's why your engine can't start, even with a fresh glow plug.

You say your fuel is "only" a few months old, but that's more than enough time for it to have become tainted with water. To keep it fresh, buy only as much fuel as you can use during the next few weeks, and be sure to store it in a cool, dry place—never in a damp basement on a concrete floor. Ask a friend for a tank of his fuel to try in your engine. Your engine should start, and you should be able to tune it normally.

CONTACT THE PISTON POWER SOURCE

Send your questions and comments to Stephen Bess, stephenb@airage.com.

Tamiya Tire Warmers

TAMIYA'S TIRE WARMERS BRING F-1 tech to 1/8- and 1/10-scale racers. It's a simple concept. Each tire warmer has small "ribbon" heaters underneath the surface; they ensure that the heat is evenly distributed across the tire tread, and they're waterproof. Four warmers are linked to one Tamiya-style plug that fits most stick battery packs. After you've wrapped the tires, just connect the battery. Hook-and-loop fasteners keep the warmers tightly on the tires. In testing, the warmers reached 140 degrees Fahrenheit within 3 minutes and maintained this temperature for up to 90 minutes with a 2400 battery pack. At race time, preheated tires give maximum traction right from the start tone; while the other guys tiptoe on cold tires, you can move up to the front!

We tested our warmers with a Tamiya F-103RS chassis. Without the warmers, the car tended to toss its rear out in constant-radius turns. This required quick throttle control and lots of counter-steering. With warmed tires, the car had enough extra grip to hold these turns with very little throttle input and less need for countersteering.

Tamiya America Inc. (800) 826-4922; tamiyausa.com.



TIRE WARMERS

Item no.	49259
Price	\$92.99

Novak Switch Synthesized Module

RC RACERS HAVE ALWAYS DREAMED OF GOING TO the track with every radio frequency available to them, but the cost of crystals makes that highly impractical. The folks at Novak solved half the problem when they introduced their XXtra synthesized receiver with tunable frequencies, but you still had to have a transmitter crystal. Novak's latest gadget—the new Switch Synthesized 75MHz M8 Module—eliminates the need for crystals altogether, at least, on the Airtronics M8 radio. We tested it, and here's the skinny.

The Switch was built for the Airtronics M8 and is available only on 75MHz. If your M8 radio is 27MHz, no sweat: the Switch will work with it. You'll just have to use a 75MHz receiver. The Switch can operate any one of the 30 75MHz frequencies. Just rotate the left dial for the first digit of the frequency and the right dial for the second digit. Detents lock them in position. Installing the Switch is simple; just remove the Airtronics module, and replace it with the Switch.

Before we headed to the track, we set up a sedan with a Novak XXtra 75MHz receiver. The Switch and XXtra combo really shone during practice. We didn't have to wait for a specific frequency clip; we just dialed in the radio and receiver to a frequency that wasn't being used. Throughout the day, we tried many frequencies and didn't experience any radio-system problems.



Novak Electronics Inc.
(949) 833-8873; teamnovak.com.

SWITCH SYNTHESIZED MODULE

Item no.	2680
Price	\$189



Crazy Nut Racing Racing Micro RS4 Wide Offset Aluminum Wheels

CRAZY NUT'S ALUMINUM 5-SPOKE WHEELS are flawlessly machined from 7075 aluminum (that's the hard stuff) and polished to a mirror-like finish. The nearly chrome wheels are pimpin' based on their finish alone, but their extra offset (2mm for the fronts, 4mm for the rears) makes the tires extend past the wheel wells for a totally street look. The Crazy Nut rims replace the stock wheels and hubs, accept any tire designed for Micro RS4 rims and are drilled for tire venting. The front wheels are a direct fit, but you'll need to slip a spacer from the Micro RS4's parts tree between the rear wheels and their mounting nuts, or the nuts will run out of threads before they bottom out on the wheel. The 7075 aluminum rims held up very well and showed no signs of wobble or runout after a bunch of us had turns behind the wheel.

Crazy Nut Racing (410) 282-5085; crazynutracing.com.

MICRO RS4 ALUMINUM WHEELS

Item no.	CNR5100
Price	\$60

RC Trix Tuning springs for Traxxas Maxx trucks

RC TRIX'S NEW SPRINGS ARE DESIGNED specifically for the Maxx and are offered in two versions: "10 percent," which are 10 percent stiffer than the stock Maxx springs, and "20 percent"—you guessed it, 20 percent stiffer. Both come in a range of powder-coated finishes, including red, yellow, blue, black, silver, gold, light purple and teal blue. In addition to these colors, the 20-percent springs are also available in fluorescent blue, orange, pink, green and yellow.

The stiffer springs help prevent chassis bottoming and reduce body roll, and they also inhibit squatting under acceleration and diving while braking. In combination with a range of shock fluids, the RC Trix springs can help give you a tuning edge on the racetrack. The springs' finish seems very durable and was unaffected by fuel residue or the undiluted degreaser used during cleanup.

RC Trix (866) 472-8749; rctrix.com.



TUNING SPRINGS FOR TRAXXAS MAXX TRUCKS

10%; Item no.	RCT1236
Price	\$7/pack of 4.
20%; Item no.	RCT1237
Price	\$7.50/pack of 4.



Trinity Motor Cooling Stand

TRINITY'S MOTOR COOLING STAND quickly and safely cools down your motor between runs. With this unit, you'll no longer have to work on a burning-hot motor. The stand is constructed of billet aluminum and has a 5V cooling fan on the bottom that blows air up and through the motor can. Four rubber feet prevent the stand from dancing around on your workbench and also lift it just high enough for air to flow through the fan. A rubber O-ring at the top eliminates vibration caused by the motor hitting the stand, and installed, pre-tinned wire leads are ready for alligator clips or clamping under your power supply's outputs. Once power has been supplied to the stand, all you do is drop in the hot motor.

Trinity's directions tell you to hook the Cooling Stand up to a 12V power supply or a battery pack, so we tested the stand using both power sources. Connected to a 12V power supply, the fan hummed like a turbine and quickly lowered the temperature of a hot motor. A battery pack did not cool the motor as quickly because its lower voltage did not spin the fan as fast, but the time difference for cooling was negligible. When it's hooked up to a 6-cell pack, you get hours of cooling time because of the fan's low amp draw.

Trinity Products Inc. (732) 635-1600; teamtrinity.com.

MOTOR COOLING STAND

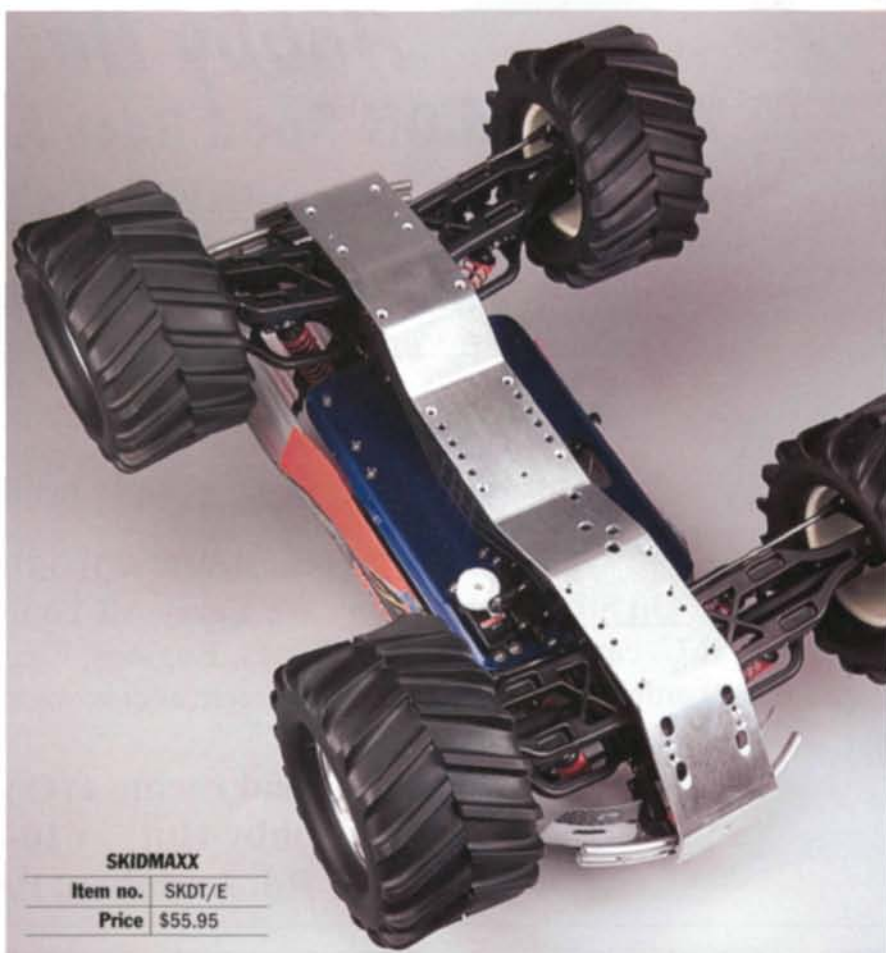
Item no.	RC2085
Price	\$29.95

Impact Performance Products SkidMaxx

THIS BEEFY, ONE-PIECE, 3mm-thick plate helps prevent the separation of the front and rear suspension in hard crashes and keeps your drive train safely nestled out of harm's way. The SkidMaxx protects your Maxx from bumper to bumper and supports the entire undercarriage (it's an absolute anvil when it encounters harsh terrain). The SkidMaxx's quality is superb, and the instructions are topnotch. It features countersunk screw holes, high-grade hardware and well-placed access holes for hinge pins, turnbuckles, transmission, engine, fuel tank and shock towers. "Crumple zones" have been designed into the plate with the use of replaceable nylon brackets in the front and rear; these absorb impacts. Installation is simple: just trim the front and rear stock skidplates and then install the SkidMaxx.

In testing, the SkidMaxx did a terrific job of protecting our T-Maxx but added enough weight to affect the suspension. The truck tended to bottom out on "big-air" landings until we added more preload to the springs. Since the SkidMaxx is below the truck's center of gravity, handling and body roll were not affected.

Impact Performance Products
(661) 663-0894; impactperformanceproducts.com



SKIDMAXX

Item no.	SKDT/E
Price	\$55.95

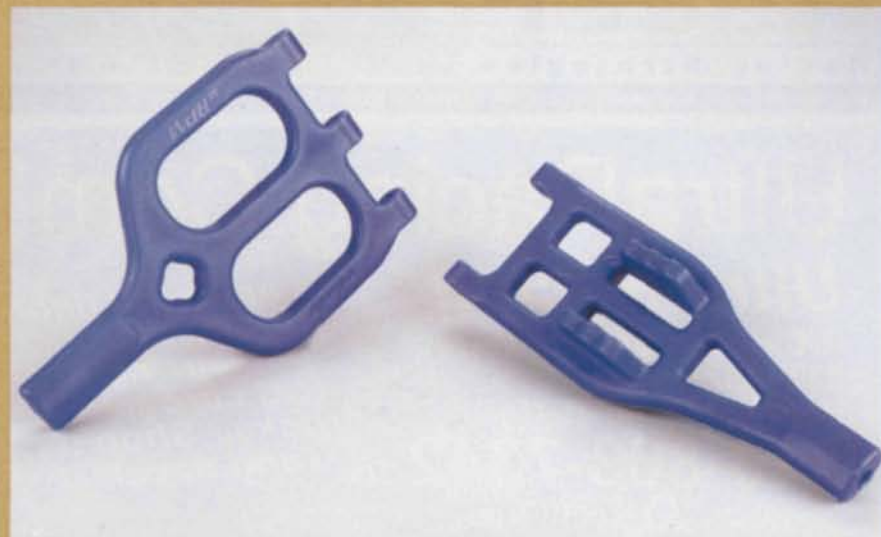
RPM Wide A-arms for Traxxas Maxx trucks

RPM'S NEW A-ARMS FOR THE 2.5 T-MAXX are direct replacements for the stock parts, but RPM claims they're even stronger; in fact, RPM guarantees them to be unbreakable. In addition to the upper and lower arms' visibly thicker construction, a rib molded into the lower arm's underside provides extra strength. RPM also altered the shock positions on the lower arm; instead of four staggered positions, three in-line holes are used. According to RPM, the first and last holes duplicate the innermost and outermost holes on the

stock Traxxas arm, but RPM's middle shock position can't be duplicated by the Traxxas arm. The arms are available in black, blue, purple, and dyeable white, and are sold in pairs; each package contains one lower and one upper arm.

Installation was easy because the arms are direct replacements for the originals. During tests, the RPM A-arms held their own against rocks, curbs, big-air landings, cartwheels and head-on collisions and hid scratches well; since the color is molded-in, there's no "finish" to scratch off. Exactly how much the alternative middle shock position pays off on the track depends on your setup and driving ability, but it's always better to have more options rather than fewer. For most Maxx drivers, the RPM arms' real draws are their custom-colored looks, easy installation and guaranteed toughness. ■

RPM R/C Products (909) 393-0366;
rpmrcproducts.com



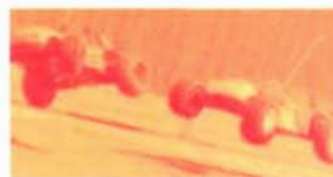
WIDE A-ARMS FOR TRAXXAS MAXX TRUCKS

Item nos.	
	80071 (dyeable white)
	80072 (black)
	80075 (blue)
	80078 (purple)
Price	\$11.95

PRO-LINE

YOUR 2003 TRACK GUIDE

DIRECTORY



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ALABAMA

Hobby Raceway, Tusculosa, Alabama 35405; Mark or Don Holt, 205-759-4517 & 205-333-8679; email: makkholt@aol.com

Mobile Miniature Speedway, Theodore, Alabama 36582; Richard Sweetser, 251-653-6643; email: jbogard@comcast.net; web: mywebpages.comcast.net/jbogard

North Cullman Raceway, Cullman, Alabama 35055; Daniel Lollies, 256-775-2491; email: cullmanrchoobies@yahoo.com; web: www.cullmanrchoobies.homestead.com

Oak Mountain R/C Raceway, Columbiana, Alabama 35051; Matthew Gordon, (205) 669-6837; email: oakmtnrcraceway@hotmail.com

R/C Hi-Tech Raceway, Huntsville, Alabama 35811; Rick Chambers, 256-539-1347

Spring Cove International Speedway, Florence, Alabama 256-757-1562; email: rvines@hiway.net; web: www.springcovespeedway.com/SpringCove.htm

ARIZONA

HobbyTown Raceway, Tucson, Arizona 85713; Jay, (520) 882-8888; web: www.hobbytown.com

HobbyTown U.S.A., Phoenix, Arizona 85044; Doug McFarland, (480) 598-5282

R/C Sports Mania, Phoenix, Arizona 85017; Gary Dick, (602) 278-3671

Scottsdale R/C Raceway, Scottsdale, Arizona 85251; Scott Anfinson, 480-945-2186

ARKANSAS

Alison Offroad RC Raceway, Little Rock, Arkansas 72206; Steve Alison, (501) 490-1227; email: jason@alisonoffroad.com; web: www.alisonoffroad.com

Grand Slam Hobby, Ft. Smith, Arkansas 72901; Bryon Shumate, (501) 648-1994; web: www.gshobby.com

Sparks R.C. Raceway, Paragould, Arkansas 72450; Tommy Sparks, (870) 239-3606

CALIFORNIA

Capital City R/C, Sacramento, California 95829; Homer, 916-383-3445; email: lanno@pacbell.net; web: www.capitalcityrc.com

Castle Hobbies, San Jose, California 95124; Steve Scott, 408-377-3771; web: www.castlehobbies.com

CCRCCC, California City, California 93505; Josh Geiger, (760) 373-2537; email: gorace@ccis.com

Crystal Park Raceway, Compton, California 90202-4925; James Reese, 310-631-0307; email: mailto:info@crystalparkraceway.com

Delta R/C Raceway & Hobbyshop, Antioch, California 94509; Rick or Steve, (925) 778-2965; web: www.deltarc.com

Extreme RPM Hobbies, Grand Terrace, California 92313; Bobby Haney, 909-370-3379; email: Extremerrpmrace@aol.com; web: www.ExtremeRpmRacing.com

Hobby Central Raceway, Poway, California 92064; Lee, (858) 513-0373; web: www.hobby101.com

Hobby World, San Jose, California 95129; Guy Bassett, (408) 873-2109

Hot Rod Hobbies, Saugus, California 91350; Jimmy Babcock, (661) 255-2404

Jakeis Performance Hobbies, Rohnert Park, California 94928; Jake, (707) 586-3375; email: jphrac-ing001@aol.com; web: jphrac-ing.com

Paradise Hobbies & RC Raceway, Paradise, California 95969; David Lafabreque, (530) 877-6447; email: paradisehobbies@aol.com

Pure Adrenaline RC & Hobby, Sonoma, California 95370; Matt, (209) 536-6232; email: contact@pahobby.com; web: www.pahobby.com

Racer's Haven Raceway, Bakersfield, California 93309; Greg Cooper, 661-835-0441; web: www.racers-haven.com

Rescue Mini R/C Speedway, Rescue, California 95672; Bruce Pease, (530) 621-3948; web: www.innercite.com/~rcracing/

Ripon R/C Speedway, Ripon, California 95366; Dan Tanis, (209) 599-5160

Sacramento RC Racing & Hobbies, Sacramento, California 95824; Andreas Muller, (916) 424-4001; email: andreas123@earthlink.net; web: www.77sunset.com

Showtime R/C Speedway, Bakersfield, California 93301; Don Risner, 661-328-1481; email: showtimespeedway@aol.com; web: www.showtime-speedway.com

SpeedWorld Raceway, Roseville, California 95678; Billy Bowerman, 916-783-8864; email: speeddog@mindsync.com; web: speedworldraceway.com

The Dirt Valley R/C Racepark, Hemet, California 92544; Joe Christenson, (909) 925-7592

Ventura RoadRunners, Camarillo, California 93010; 805-564-4144; email: dudebigal@aol.com; web: www.venturaroadrunners.com

So Cal R/C Raceway, Huntington Beach, California 92646; Jim or Lana, 714-963-7484; email: info@socialrc.com; web: www.socialrc.com

SpeedWorld Raceway, Roseville, California 95678; Billy Bowerman, 916-783-8864; email: speeddog@mindsync.com; web: speedworldraceway.com

The Dirt Valley R/C Racepark, Hemet, California 92544; Joe Christenson, (909) 925-7592

Ventura RoadRunners, Camarillo, California 93010; 805-564-4144; email: dudebigal@aol.com; web: www.venturaroadrunners.com

COLORADO

MHOR R/C Raceway, Aurora, Colorado 80011; Jess A. Brockman, (303) 343-0151; email: questions@mhorrcc.com; web: www.mhorrcc.com

Valley West Off-Road RC Club, Grand Junction, Colorado 81504; Jodie Grein, 970-242-1412; email: geer-hed@gj.net; web: www.gj.net/~geer-hed/vworcind.html

CONNECTICUT

K&N R/C Speedway Inc., Stafford Springs, Connecticut 06076; Jim or Bill, (860) 684-9896

Manchester Hobbies, Manchester, Connecticut 06040; Jim or Mike Tierini, (860) 643-4768

R/C Madness, Enfield, Connecticut 06082; Christopher Marcy, (860) 741-6501; email: cmarcy@rcmadness.com; web: www.rcmadness.com

Xtreme Radio Control, New Milford, Connecticut 06776; Paul or Pete, (860) 354-4703

DELAWARE

ESRC, Seaford, Delaware 19973; Bill Auchterlonie, 302-734-2757/302-629-3944; email: aeromarine@erols.com

FLORIDA

B&T RC Central, Fort Walton Beach, Florida 32547; Mike or Tim, 850-863-1666

Daytona R/C Racing Assoc., Ormond Bch., Florida 32174; Mike Wichman, 386-677-0898; email: bjj@bestnetpc.com; web: daytona-rc.homeip.net

Farmers Hobby Shop & Raceway, Tampa, Florida 33619; Greg Cardone, 813-248-3314; web: www.farmershobby.com

First Coast Speedway, Jacksonville, Florida 32211; Bobby Phillips, 904-716-0861; web: www.firstcoastau-toracing.com

G&C Hobby Raceway, Lantana, Florida 33462; George, 561-547-3812; email: gnchoobbies2@cs.com; web: www.gnchoobbies.com

GBs Hobbies, Port St. Lucie, Florida 34952; Track Owner, 561-460-2844; email: qaircfrt@bellsouth.net

Grand Prix RC-Club, Ft. Pierce, Florida 34945; Luther Peterson, 772-473-2130; email: grandprixhob-bies@aol.com

Gulf Coast RC Club, Naples, Florida 34105; Mark Benfield, 941-774-7116; email: teamnofear@aol.com

Hobby Central, Pensacola, Florida 32504; Bill McLester, 850-471-9800; email: info@hobbycentralrc.com; web: www.hobbycentralrc.com

Hobby World Raceway, Jacksonville, Florida 32210; Greg, (904) 772-9022

Kissimmee R/C Auto Racing, Kissimmee, Florida 34741; John Rosser, (407) 944-4913; email: john@craftworldflorida.com; web: www.craftworldflorida.com

Miami RC Raceway, Miami, Florida 33176; Mickey Cerra, (305) 630-3714; email: miamircraceway@aol.com

Monza R/C Speedway, Miami, Florida, Ed Delgado, (305) 437-9895

Morris Kohl's Raceway and Hobby Shop, Tampa, Florida 33604; Morris Kohl, (813) 931-1626

My Rose Hobbies & Crafts, Jupiter, Florida 33458; Mark Watson, (561) 744-3800

NORRA, Naples, Florida 34104; Rob Dondorfer, 239-417-1099; web: www.norra.mainpage.net

Pro Hobbies Speedway, Apopka, Florida 32712; Jim, (407) 886-4615; email: prohobby@juno.com

Sarasota RC Speedway, University Park, Florida 34201; Jim Wilson, (941) 358-7047

South Palm Beach Racers, Boca Raton, Florida 33486; Mike Fazio, 561-338-5367; email: epine01@bell-south.net; web: <http://communitylink.gopbi.com/group/s/spbrclub>

Superior Hobbie R/C Parking Lot Racing, Casselberry, Florida 32707; (407) 334-9299; email: racing@superiorhobbies.com; web: www.superiorhobbies.com

SWF RC Car Club, Fort Myers, Florida 33907; Mike Nardone, 941-278-1295; email: swfrcclub@yahoo.com; web: swfrcclub.tripod.com/swfrcclub

Tallahassee R/C Speedway, Tallahassee, Florida 32301; Tim Cook, 850-514-3365; email: tdthtre@hotmail.com; web: www.geocities.com/rcdude1/rccars.htm

Tampa R/C Raceway, Seffner, Florida 33584; Carole Raimondi, 813-655-6366; email: carolehobbytown@aol.com

Treasure Coast R/C Club, Palm City, Florida 34990; Doug Goethel, 772-283-2260; email: 1tingo@gate.net

West Coast R/C Club, Lutz, Florida 33549; J.R. Sanyet, President, 813-991-0168

GEORGIA

Augusta R/C Racer's Club, Augusta, Georgia 30909; Darren, 706-860-5608; web: Augusta.rc.freemovepage.com

Dalton Motorsports, Dalton, Georgia 30721; Keith Manton, 706-226-6699; email: dmsa@alotet.net

KEY TO SYMBOLS

	Indoor		Concrete
	Outdoor		Asphalt
	Off-road		Minis & Micros
	On-road		On-site hobby shop
	Oval		AC power
	Dirt oval		Auto lap counting
	Carpet		Food available

Hobby Town Raceway, Columbus, Georgia 31909; Frank Bastos, (706) 660-1793; email: fbastos@mindspring.com; web: www.hobbytown.com

Primetime Raceway, Calhoun, Georgia 30701; Tommy Jackson, 706-625-9037; email: primetimehobby@gccinternet.net; web: primetimehobby@gccinternet.net

SCORE-Phil Hurd Raceway, Savannah, Georgia 31406; Pat Rossiter, Club President, 912-920-2668; email: rossspeed@msn.com; web: www.score-racing.org

The Flight Box Hobby Shop, Rome, Georgia 30161-6826; Leslie Duke, (706)-234-3014

GUAM

Guahan Off-Road Racers Mangilao, Deddo, Guam 96929; Mr. Yoshimura, 671-637-8682; email: thumbtrack2@yahoo.com; web: guahanracers.netfirms.com/

HAWAII

A.S.I. Racing, Kapaa Kauai, Hawaii 96746; Arnold Morales, 808-821-8132

Radio Control Assoc./Alaa Park Raceway, Pearl City, Hawaii 96782; Ace R/C Products, (808) 456-1279

Sandy Flemings, Pearl City, Hawaii 96782; Dave Caldwell, 808-456-7272; email: info@formula1-rc.com; web: www.formula1-rc.com

IDAHO

Almosta Ranch R.C.s., Twin Falls, Idaho 83301; Casey Clements, (208) 733-8667; email: james_casey_clements@hotmail.com

Capital Dirtburners, Boise, Idaho 83702; Joe Thompson, 208-466-6334; email: internarchitect@yahoo.com; web: communities.msn.com/capitaldirtburners

DM Raceway, Pocatello, Idaho 83201; Mike Buffalo, 208-233-8163; email: dmraceway20m.com; web: www.dmraceway20m.com

ILLINOIS

AJs Raceway & Hobby, Dekalb, Illinois 60115; AJ, 815-756-2772; web: www.ajsraceway.com

C.I.R.C.A., Jacksonville, Illinois 62650; Sport 'n' Hobby, (217) 245-1375

His N Hers Hobbies Raceway, Bloomington, Illinois 61701; Kevin Turek, 309-827-0204; email: hisnhershobbies@aol.com; web: www.crashrc.ocatch.com/

HobbyTown USA, Oak Park, Illinois 60301; Mark or Fred, (708) 445-8056; email: htupoli@aol.com

Machesney Park Raceway, Machesney Park, Illinois 61115; Gina, (815) 282-1311; email: mpr30@aol.com; web: www.mpr30.homestead.com

Monee R/C Raceway, Monee, Illinois 60449; Roy or Roberta Moody, (708) 534-2422 (track), (708) 799-5597 (office)

Primetime Hobbies, Tremont, Illinois 61568; Don Davis, 309-925-9999; email: staff@primetimehobbies.com; web: www.primetimehobbies.com

Radio-Active Raceway, Bolingbrook, Illinois 60440; Jim, (630) 759-7557; email: RCVolt@aol.com

Venture Raceways, Libertyville, Illinois 60048, (847) 549-6963

INDIANA

Bremen Racing Ent., Bremen, Indiana 46506; Dale Heuberger, 219-546-3807

Duneland Hobbies & Raceway, Portage, Indiana 46368; Ron, 219-763-1610; email: RTrobaugh1@aol.com; web: www.dunelandhobbies.com

Hobby Barn Raceway, Terre Haute, Indiana 47802-9694, (812) 299-5773

P&T Hobbies and Raceway, Mitchell, Indiana 47446; Paul Weber or Tom Logsdon, (812) 849-6666; email: pnthobby@quest.net; web: www.pnthobby.com

Pete Russell's R/C Speedway, Elkhart, Indiana 46516; Pete Russell, 574-293-1827

R/C World of Indiana, Lynn, Indiana 47355; Joe Kolp, (765) 874-2464; email: rcworld@rcworld.com; web: www.RCWORLD.com

RC Barn, Monroe, Indiana 46772; Mark Lengerich, (219) 692-6600; email: bigdaddy@adamsells.com; web: www.rcbarn.com

RCRCR Raceway, Boonville, Indiana 47601; Scott Payton, 812-477-9661; email: spdracer@speedex.net; web: www.rcrcr.com

Schoolyard RC Speedway, Lagrange, Indiana 46761; David W. Bryan, 260-463-3558; email: dwbryan@loc.net; web: www.rcspeedway.net

Showtime Lot Racing, Fort Wayne, Indiana 46819; Mike Romines, (219) 478-6099; web: fortwaynecrpark.tripod.com/

IOWA

Ames Radio Control Speed Assoc., Ames, Iowa 50014; Ryan Davis/Brad Scandrett, 515-231-3613/515-432-0467; email: DAVISMOTORSP@aol.com

Dubuque R/C Speedway, Dubuque, Iowa 52002; Craig Schmal, 563-587-0218; email: rcraig7@aol.com; web: www.geocities.com/dbqrc

Hobby Haven, Des Moines, Iowa 50322; Rick Marble, (515) 276-8785; web: www.hobbyhaven.com

Independence, Independence, Iowa 50644; Eugene Bachman, 319-266-3857; email: BachmanE2@hotmail.com

Iowa City R/C Racing Association, Iowa City, Iowa 52240; Hobby Corner, (319) 338-1788

IROAR-Vinton Raceway @ Vinton Roller Rink, Cedar Rapids, Iowa 52402; Ed Karr, 319-362-1291; email: boxkarhobby@aol.com

Manly R/C Club, Manly, Iowa 50456; Bruce Hill, (641) 454-2025

Marble's Raceway, Des Moines, Iowa 50317; Rick Marble, (515) 262-7507

Radio Control Raceway Park, Fort Dodge, Iowa 50501-6746; Bernie Halverson, (515) 576-3780; email: bhalverson@dodgenet.com

RiverFront Speedway, Fort Dodge, Iowa 50501; Bernie Halverson, 515-576-3780 (515-571-1717 Race Day); email: bhalverson@dodgenet.com

Wild Bill's Raceway, Knoxville, Iowa 50138; William Anderson, Jr., 641-842-5973; email: wildbilz@iowatelecom.net; web: www.wildbillsracing.com

KANSAS

D&B Raceway, Menlo, Kansas; Ron Ball, (785) 855-2370

KENTUCKY

Coyote Raceway, Lexington, Kentucky 40505; Danny P., 859-253-9900 or 859-253-9330; email: hyperbola01@earthlink.net; web: www.coyotehobbies.com

Dixon's R/C Raceway, Hazard, Kentucky 41701; Jeff Dixon, (606) 436-4820; email: jeffdr1@hotmail.com

Mayking R/C Speedway, Mayking, Kentucky 41837; Jon Fields, 606-633-4700; email: jon1@se-tel.com

Pit Stop Hobbies, Paducah, Kentucky 42003; Robert or Rodney, 270-443-0052; email: pitstop1@apex.net

R.C. WOW, Falmouth, Kentucky 41040; John P. Jones, (859) 654-1700; email: rcwow@fuse.net; web: www.rcwow.com

Trio Hobbies & R/C, Radcliff, Kentucky 40160; Maurice Johnson, (502) 351-7547

Wildcat Speedway, Nicholasville, Kentucky; David Bowles, 859-272-0231

LOUISIANA

Fast Pace Hobbies, Alexandria, Louisiana 71301; Joseph or Casey Toralba, 318-561-2070; email: fastpacehobbies@aol.com

Gator R/C Raceway, Moss Bluff, Louisiana 70612; Tony Diaz, 337-855-3206; email: keithsjac@aol.com; web: homepage.mac.com/kmaples/

Hwy. 44 Hobby Shop, Gonzales, Louisiana 70737; Eric Olmstead, (225) 644-1773; email: eric209@aol.com

Red Stick R/C Raceway, Baton Rouge, Louisiana 70814; Michael Pino, 225-218-1002; email: redstickraceway@aol.com; web: www.redstickraceway.com

St. Charles RC Speedway, Destrehan, Louisiana 70047; Al Cazalot, (504)764-0625; email: stcharlesracer@home.com; web: members.home.net/stcharlesracer

MAINE

Central Maine R/C Speedway & Hobbies, Fairfield, Maine 04963; David Prescott, (207) 453-4588; email: rrcacer@mint.net

Clay Bowl R/C Hobbies, Greene, Maine 04236; Pat Cap, (207) 946-5003

MARYLAND

Colos Race Way, Waldorf, Maryland 20602; Cole Brincefield, (301)-843-1386; email: kbrincefield@cs.com

GPA Hobbies, Crofton, Maryland 21114, 301-858-0004

HobbyTown USA, Glen Burnie, Maryland 21061; David Parkison, 410-590-4950; email: racing@mdhobbytown.com; web: mdhobbytown.com

The Track, Gaithersburg, Maryland 20877; Mimi Wong, (301) 417-9630; email: mimithe-track@yahoo.com; web: www.rctrack.com

MASSACHUSETTS

Big Boys Toys, Fall River, Massachusetts 02723; Track Owner, 508-677-9400

East Templeton Model Raceway, Templeton, Massachusetts 01468; Keith Anderson, 1-978-632-1619; email: keith@glowplug.com; web: glowplug.com

Hi-Tech Hobbies, Raynham, Massachusetts; Ruben, (508) 880-5373

Megadrome Raceway, North Adams, Massachusetts 01247; Bob Blanchette, 413-743-7223

Northboro Speedway, Northboro, Massachusetts 01532; Bob Trimble, 508-393-8087 or 393-2691

R/C Excitement, Inc., Worcester, Massachusetts 01605; Todd Anderson, 508-753-8676; email: rcexcitement@aol.com; web: www.rcexcitement.com

RPM RC Raceway, Abington, Massachusetts 02351-1094; Richard Tonetti, (781) 857-2300; email: hobbtown@aol.com; web: www.rpmhobbies.com

MICHIGAN

D.R. R/C, Taylor, Michigan 48180; Bobby or Fred, (734) 287-7405; web: www.downverracing.8k.com

Dirt Burner Racing, Commerce, Michigan 48390; Bill, 248-926-1140; web: www.dirtburnerracing.com

E.U.P., Kincheloe, Michigan 49788; Joel Wiggins, 906-495-3503

Fastraxx, Brownstown, Michigan 48173; Greg Yingling, (734) 379-8980; email: fast3@hotmail.com

Great Lakes Racers Club, Grand Rapids, Michigan 49558; John Warner, 616-838-2231; email: GrLksRacers@aol.com; web: www.rogers3.com/glrcl

Hideaway Raceway, Napoleon, Michigan 49201; David Carlisle, 1-517-536-8821; email: adcarlisle1@netscape.net

Jons Hobby, Mt. Pleasant, Michigan 48858; Jon Beutler, (517)773-5412; email: jonshobby@earthlink.net; web: www.jonshobby.com

JT Superspeedway, Battle Creek, Michigan 49015; Jerry or Sam, 616-965-0116

Larry's Performance RC Carpet Track, Sterling Heights, Michigan 48314; Larry, 586-997-4840; email: lprcs@qwest.net

Lazer RC Speedway, Adrian, Michigan 49221; Russ Johnson, (517) 263-2806

N.M.R.C.C. Speedway, Gaylord, Michigan 49735; Gabe, (989) 732-3963; email: hobby-toy@voyager.net

R&L Hobbies & Racing, Portage, Michigan 49002; Rex Simpson, (616) 323-3686; web: www.rlhobbies.com

R.A.C.E. Inc., Jackson, Michigan 49203; Sam Sprang, (517) 787-9161

Raw Roots Race Tracks, West Olive, Michigan 49460; Roy Bennick, (616) 399-9338

Village Hobbies, Hesperia, Michigan 49421; John Fosdick, 231-854-1374; email: vhracing@triton.net

Village R/C Raceway, Decatur, Michigan 49045; Chuck Nolke, (616) 423-7878

MINNESOTA

Country R/C Raceway Park, Belview, Minnesota 56214-8115; Charles L. Steffl, 507-641-8115

J's Radio Control Race Park, Starbuck, Minnesota 56381; Jay Campbell, (320) 239-4827

Kevin's Off-Road Raceway, Crookston, Minnesota 56716-2317; Kevin Altepeter, (218) 281-7523; email: kevin@krcproducts.com; web: www.krcproducts.com

National Speedway, Fridley, Minnesota 55432; Steve Hedenland, 763-571-9283; email: mrtip@nationalhobby.com; web: www.nationalhobby.com

Northwoods Hobby Raceway, Brainerd, Minnesota 56401; John or Doug, (218) 829-9257

Twin Cities Hobby & Raceway, Brooklyn Park, Minnesota 55443; Mark O'Brien, 763-569-5069; email: wooduster@msn.com; web: www.twincityhobby.com

Meridian RC Speedway, Meridian, Mississippi 39302; Joe or Pearce, 601-483-7000

Small Cars Unlimited, Jackson, Mississippi 39212; Ed Hill, 601-372-3278; email: fast3@smallcar-unlimited.com; web: www.smallcarsunlimited.com

X-Treme RC, Saucier, Mississippi 39574; Marty Capers, (228) 539-2004

B&L Hobbies & Raceway, Park Hills, Missouri 63061; Bob Marler, (573) 431-9444

Hobbies In Motion Raceway, Springfield, Missouri 65803; Matthew Froning, 417-886-9621; email: mrkd-turismo@aol.com; web: www.gor-c.com

North Missouri Raceway, Chillicothe, Missouri 64601; Billy Johnston, (660) 646-1120

Novelty R/C Raceway & Hobbies, Novelty, Missouri 63460; Rex & Jena Franke, 660-739-4530; email: rex_jena@noveltyrc.com; web: www.noveltyrc.com

Ozarks R/C Raceway, Springfield, Missouri 65803; Gene Rhodes, 417-873-9350 (Track), 417-742-4376 (Home); email: OzarksRaceway@aol.com

OREGON

Competition Racing Association, Portland, Oregon 97230; Mark Taylor, Pres., 503-761-1334; 503-761-0443fax; email: cra@cra-news.com; web: cra-news.com

RC

Dir City RC, Albany, Oregon 97321; Doug Vertrees, (541) 791-1089; email: quicktemperrc@aol.com

R/C

R/C Plus Hobbies Raceway, Salem, Oregon 97302; Ron Smith, (503) 364-9188; email: rcplus@rcplus.com; web: www.rcplus.com

R/C

R/C Speed Center, Medford, Oregon 97501; Gene & Betty Jean Skelton, 541-779-8298

R/C

Rose City Scale Racing, Milwaukie, Oregon 97222; Rick Strauss, (503) 631-2929; web: www.rc-cars.com

PENNSYLVANIA

Bumps & Jumps RC Speedway, Middletown, Pennsylvania 17057; Chris McKinney, 717-728-4613; email: chrismc@bigfoot.com; web: www.bumpsandjumps.com

Courtview Raceway, Washington, Pennsylvania 15301; Aaron Stimmell Jr., 724-228-8396

DC Ultra Trax, Warminster, Pennsylvania 18974; David Cowan, (215) 672-5200; web: www.jcrhobbies.com

Dreamboat Hobbies, Warren, Pennsylvania 16365; Louie Dussia, (814) 723-8052; email: dreamboat77@yahoo.com

J&K Hobbies and Raceway, Jersey Shore, Pennsylvania 17740; Jason Corter or Kevin Casbeer, 570-398-8171; email: rcmaniac01@msn.com

Kranzel's R/C Raceway & Hobbies, Lemoyne, Pennsylvania 17043; David or Stuart Kranzel, (717) 737-7223; web: www.kranzelsrchoobbies.com

Little Plum R/C Hobbies, Lock Haven, Pennsylvania 17445; Larry Duck, (570) 769-1984

Marshall's R/C Raceway, Honesdale, Pennsylvania 18431; Bill or Dot Marshall, (570) 729-7458

McCullough's Offroad, Sarver, Pennsylvania 16055; Doug McCullough, (724) 352-0116; email: dmccul323@aol.com; web: www.mcculloughsoffroad.com

Newville RC Speedway & Hobbies, Newville, Pennsylvania 17241; Randy or Mike, 717-776-5568; email: newvillercspeedway@yahoo.com; web: www.newvillercspeedway.com

Pit Stop Hobbies, Mount Joy, Pennsylvania 17552, (717) 653-6222; email: pitstophobbies@pitstophobbies.net; web: www.pitstophobbies.net

Racers Edge R/C Racing & Hobbies, Smethport, Pennsylvania 16749; Rick Morgan or Johna Simar, (814) 887-9256; email: racersedge.rc@mindspring.com; web: www.racersedge.com

RB Motorsports & Hobby, Northumberland, Pennsylvania 17857; Rick Bunting, (570) 473-8711

RC Avenue II, Bradenville, Pennsylvania 15650; Chris Demyan, 724-537-9592; email: 12ss@msn.com

RC Dirtburners Club, Windber, Pennsylvania 15963; Bruce Schmidt, (814) 266-4118; email: rckidd1@cs.com

RC

RC Outfitters, Hanover, Pennsylvania 17331; Chris Shaffer, (717) 633-9490; email: thestore@rcchoobbies.com; web: www.rcchoobbies.com

R/C

Riverside Raceway, Warren, Pennsylvania 16365; Jeff, (814) 723-4211

R/C

Staub Bros. R/C Speedway, Gettysburg, Pennsylvania 17325; Todd or Scott Staub, 717-334-8488; web: www.staubbrothers.com

R/C

The Raceway at River Junction, Beaver, Pennsylvania 15009; Sam or John, (724) 728-5571; email: riverjct@stargate.net

R/C

Thunder Hobbies Raceway, Indiana, Pennsylvania 15701; Brent or Lori Marshall, (724) 349-2639; email: thunderhobbies@hotmail.com

R/C

Thunder Road Raceway, Limerick, Pennsylvania 19468; Brent or John, 610 831 8898; email: xslotgdx@aol.com; web: www.towbarr.com

R/C

Track 84, Narran, Pennsylvania 17555; Andrew Flexer, (717) 354-6503

R/C

Trains & Lanes Raceway, Easton, Pennsylvania 18045; Jeff Setzer, (610) 253-8850 or (800) 447-4891; email: trainlanes@aol.com

R/C

TRP, Kingston, Pennsylvania 18704; Rob Yeager, 570-283-3066; email: rcrob99@aol.com

R/C

WillCam Raceway, Punxsutawney, Pennsylvania 15767; James Campbell, (814) 939-4251

R/C

PUERTO RICO

Bayamon R/C Park, Bayamon, Puerto Rico 00956; Damian Cruz & Javier Rivera, (787) 869-8092 & 401-2770; email: damian@bayamonrcpark.com; web: www.bayamonrcpark.com

R/C

Hi-Speed C Raceways, San Juan, Puerto Rico 00926; Carlos Ortiz, (787) 283-0198; email: hispeed@hot-mail.com; web: www.hispeedhobby.com

R/C

Mech Tech Touring Park, Caguas, Puerto Rico 00725; Humbert (Tito) Lizardi, (787) 739-1572; email: titzard@hotmail.com

R/C

Tropical Raceway Track, Manati, Puerto Rico 00674; Hector Pabon/George Pabon, 787-785-9529; email: trophob@coqui.net; web: www.tropicalhobby.com

R/C

SK Hobbies Inc., Johnston, Rhode Island 02919; Slim or Keith, (401) 453-1440

R/C

RHODE ISLAND

Insane Toys RC race track, Providence, Rhode Island 02909; Jose Jimenez, (401) 421-8878; email: Havokt@aol.com; web: members.home.net/havokt/

R/C

SK Hobbies Inc., Johnston, Rhode Island 02919; Slim or Keith, (401) 453-1440

R/C

SOUTH CAROLINA

Atomic Racers, Aiken, South Carolina 29803; Bill Jackson, 706-855-0846 or 803-725-1664

R/C

Carolina R/C Speedway, Easley, South Carolina 29640; David, 864-295-1209; email: cprahlrc@mindspring.com; web: www.carolinarc.com

R/C

D&S Hobbies R/C Track, Hartsville, South Carolina 29550; Don Dietz, 843-383-0017; email: dshobbyd@aol.com; web: www.dshobbies.com

R/C

Darlington R/C Raceway at Hobbies & More, Darlington, South Carolina 29532; Jerry Pollard, (843) 393-0355; web: www.hobbiesnmore.com

R/C

Hi Voltage Raceway, Anderson, South Carolina 29625; Whitner Bowen, 1-864-225-8680; email: Jahlion247@aol.com

R/C

The Grove Racing Center, Rockhill, South Carolina 29730; Don Faris, (803) 327-4121; web: www.hobbystop.com

R/C

Hobbytown USA, San Antonio, Texas 78209; Clark, (210) 829-8697; fax (210) 829-8707

R/C

SOUTH DAKOTA

Boomerangs Raceway, Hartford, South Dakota 57033; Ed Smithback, (605) 528-7345

R/C

Dakota Off-Road Racers, Aberdeen, South Dakota 57401; Kevin, 605-225-5223

R/C

Grassland Racers, Black Hawk, South Dakota 57718; Ryan Logan, (605) 787-5632

R/C

Triple B, Winner, South Dakota 57580; Broc Stout, (605) 842-2699

R/C

TENNESSEE

Hobby Town USA, Franklin, Tennessee 37067; Bobby Mills, (615) 771-7441; email: htu126@aol.com

R/C

MSA R/C Racing, Crossville, Tennessee 38555; D.R. Findley, (931) 456-0027

R/C

Need For Speed Raceway R/C, Chattanooga, Tennessee 37415; Ronnie Cox, (423) 876-9019

R/C

Robertson's R/C Raceway, Jackson, Tennessee 38301; Travis Robertson, 731-423-6884; email: RobertsonsRC@aol.com

R/C

SpeedZone Raceway & R/C Hobbies, Sweetwater, Tennessee 37874; Mike Henderson, 423-351-0055; email: speedzon@msn.com; web: www.speedzonraceway.com

R/C

Stateline Village Raceway, Ducktown, Tennessee 37326; Len James, 423-496-5006; email: statelin@ellijay.com

R/C

W.O.W. Raceway, Beech Bluff, Tennessee 38313; Brad Jones, 731-427-1625; email: wowracer@hotmail.com; web: go.to/vowracing

R/C

TEXAS

215 Speedway, Abilene, Texas 79602; Clyde Gardner, (915) 673-2351

R/C

Al's Hobbies, San Antonio, Texas 78227; Alfonso Robles, 210-645-1050; email: alshobbies@aol.com; web: www.alshobbiesusa.com

R/C

Austex RC, Austin, Texas 78757; Michael, 512-458-2324; web: www.austexrc.com

R/C

B&B R/C Hobbies, Big Spring, Texas 79720; Walter Bumbulis, (915) 263-1790; email: b&brchobbies@aepex2000.net

R/C

Big Mike's R/C Raceway, Longview, Texas 75604; Mike Sumrow, 903-297-7814

R/C

Drycreek Raceway, Greenville, Texas 75402; Micky Alphin, 903-527-5381; web: www.pulse.net/drycreek

R/C

Finishline Raceway, Hurst, Texas 76053; Damon Darnall, (972) 404-0463; email: Finishline@ev1.net; web: http://users.ev1.net/~finishline/index.htm

R/C

Hal's Hobby Raceway, El Paso, Texas 79936; (915) 591-2213; web: www.halshobbywarehouse.com

R/C

Hobby Center Race Track, Houston, Texas 77598; Issac Ben-Ezra, 281-488-8697; email: Hobbycenter@issacmodels.com; web: www.hobbycenter.cc

R/C

Hobbytown USA, San Antonio, Texas 78209; Clark, (210) 829-8697; fax (210) 829-8707

R/C

Indy R/C World, Garland, Texas 75041; Steve Webster, (972) 271-4844; fax (972) 271-4502; web: www.indyrwcworld.net

R/C

Js Action R/C, Pasadena, Texas 77504; Jack Williams, 713-946-8888; email: jayactionrc.net; web: www.jsactionrc.com

R/C

K&M Racing, New Caney, Texas 77357; Brent Mahaffy, (281) 399-9777

R/C

M&M Hobby Center, Bellaire, Texas 77401; Meir Ben-Ezra, 713-661-7137; email: mandm@mnhobby.com; web: www.mnhobby.com

R/C

MBRC, Dallas, Texas 75093; Mike Battelle; email: info@mbrc-racing.com; web: www.mbrc-racing.com

R/C

Mike's Hobby Shop Superstore & Raceway, Carrollton, Texas 75006; 972-242-4930; web: www.mikeshobbyshop.com

R/C

Reflex R/C, Houston, Texas 77055; Joseph Chen, (713) 464-4458; web: www.reflexrc.com

R/C

T&M Raceway R/C Drag Racing, Addison, Texas 75244; Marvin Jackson, (972) 416-0445; email: mjackson@tmraceway.com; web: www.tmraceway.com

R/C

The Rollage, Greenville, Texas 75402; Guy Allen, (903) 883-0332; email: rollage2000@therollage.com; web: www.therollage.com

R/C

Thompson's RC Raceway, Lufkin, Texas 75901; Mark Thompson, (936) 637-0093

R/C

W.E.S. Hobby Race, Beaumont, Texas 77701; Marty Walker, (409) 839-4929

R/C

X-Treme Hobbies, Round Rock, Texas 78664; Jef Santos, (512) 310-0444 or (512) 388-3819

R/C

UTAH

Hobbie Stop Raceway, Riverdale, Utah; Todd Hamilton or Beazer Martin, (801) 622-0841

R/C

Intermountain R/C Raceway, Magna, Utah 84044; David Mott, 801-250-8303; email: rcmother1@aol.com; web: members.aol.com/rcmother1

R/C

Outback Raceway, Ogden, Utah 84404; Steve Brown or Beazer Martin, 801-726-3458; email: Steve@brmrc.com or Beazer@bbbs.com; web: www.brmmrc.com or www.beazershobbies.com

R/C

Vermon Hobby, Orem, Utah 84057; Ken Rice, (801) 226-6226

R/C

VERMONT

Empire Hobbies Off-Road Raceway, Saint Albans, Vermont 05478; Scott or Jen, 877-446-2243; email: empirehobbies@surlglobal.net; web: www.empire-hobbies.com

R/C

R/C Toy Box Hobbies & Tracks LLC, Saint Johnsbury, Vermont 05819; Raymond Richard, 802-748-1030; email: ray@rctoybox.com

R/C

VIRGINIA

Brad's Hobbies, Staunton, Virginia 24401; Brad, (540) 885-3642; email: brad@bradshobbies.com; web: www.bradshobbies.com

R/C

Brown Brothers Hobbies, Dumfries, Virginia 22026; Joe or Bob Brown, 703-221-5746; email: joe@bbhobbies.com; web: www.bbshobbies.com

R/C

DRWC Raceway, Virginia Beach, Virginia 23454; Les Modlin, 757-340-6681; web: www.debbiesrcworld.com

R/C

Hampton Roads R/C Drag Club, Virginia Beach, Virginia 23452; Garry Nelson, 757-399-8645; email: Garry@gsdragracing.com; web: www.HRRCDC.com

R/C

KC's Radio Control & Repair, Lynchburg, Virginia 24503; Curtis or Kim Wright, (804) 384-8596

R/C

Linville Hobbies Raceway, Linville, Virginia 22834; Jason or Jerry Shenk, (540) 833-2222; email: linvillehobbies@juno.com; web: www.linvillehobbies.com

R/C

Olde Towne Hobby Shoppe, Manassas, Virginia 20110; Jeff Gough, (703) 369-1197; web: www.olde-towne-hobby.com

R/C

Roanoke R/C Club, Salem, Virginia 24153; Chad Trent, 540-314-6257; email: roanokerc@dooleyprinting.com; web: roanokerc.cjb.net

R/C

Shamroc Raceway, Winchester, Virginia 22601; Charlie Greathouse, 540-678-8878; web: www.shamroc.homestead.com/front-page.html

R/C

Stream Hobby Shop, Newport News, Virginia 23605; Rusty Kennedy, 757-591-0720; email: streamrc@aol.com; web: streamhobbyshop.com

R/C

The Tiltyard, Dayton, Virginia 22821; Homer, 540-828-3476; email: homer@tiltyard.com; web: www.tilyard.com

R/C

Thunder Road RC Speedway, Gordonsville, Virginia 22947; Robert Bingle, 434-296-6549; email: tripod@thunderroaddracing.com; web: www.thunderroaddracing.com

R/C

Tidewater R/C Speedway, Inc., Hampton, Virginia 23663; Jim Pike, Rob Marsette, Dave Pritchard, (757) 723-8927; email: zeey31@hotmail.com

R/C

WASHINGTON

Cedardale Raceway, Mount Vernon, Washington 98273; Craig, 360-755-9464



Fantasy World Raceway, Tacoma, Washington 98408; Dave Kleinman, (253) 473-6223; email: sales@fantasy-worldhobbies.com; web: www.fantasy-worldhobbies.com



Four Season R/C Racing, Olympia, Washington 98506; Gary and Sharon Brown, (360) 491-2430



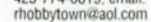
Hank Perry Raceway, Spokane, Washington 99023; Hal Hudson, 509-879-3503; email: halhudson@msn.com



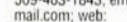
HobbyTown USA, Tacoma, Washington 98408; HobbyTown USA Shop, (253) 474-7787



HobbyTown USA, Lynnwood, Washington 98037; Jeff and Jamie, 425-774-0819; email: rhobbytown@aol.com



Paradise Raceway and Hobbies, Spokane, Washington 99207; Mark, 509-483-1843; email: paradiserc@hot.com; web: www.websellers.com/paradise



Race City, Auburn, Washington 98002; Bruce, (253) 939-2515; email: auburn@pacifier.com



Rain City RC Raceway, Lynnwood, Washington 98036; Pete or Debbie Cartwright, 425-776-8241; email: info@raincityraceway.com; web: www.raincityraceway.com



Redmond Hobbies Raceway, Redmond, Washington 98052; Stan Ng, (425) 885-3639; email: info@redmondhobbies.com; web: redmondhobbies.com



Schmidt's Auto Parts, Marysville, Washington 98271; Jon Failla, (360) 653-8838; web: www.schmidtsrccrceway.com



Spokane Indoor Raceway, Spokane, Washington 99212; Brian Batch, 509-487-2122



Tacoma R/C Raceway, Tacoma, Washington 98406; Scott Brown, (253) 565-1935; web: www.tacomarcraceway.com



West Coast Hobby & Raceway, Richland, Washington 99352; Darren Shank, (509) 375-4995



WEST VIRGINIA

Burr Fab R.C. Raceway, West Union, West Virginia 26456; Mark Travis, 304-873-2487; email: burrfab1@cs.com



Fulton's R/C Raceway, Wheeling, West Virginia 26003; James Fulton, (304) 233-5355



Mountwood Raceway, Vienna, West Virginia 26105; Tom Allen, 304-295-3234; email: ray@ovrccc.com; web: www.ovrccc.com

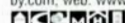


Quiet Dell Raceway, Fairmont, West Virginia 26554; Darris, (304) 366-1441; email: Tateracing@aol.com



WISCONSIN

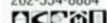
ABC R/C Inc & Raceway, Waukesha, Wisconsin 53186; Dick Mathieson, 262-542-1245; email: Help@abcrchobby.com; web: www.abcrchobby.com



Best's Hobbies, Appleton, Wisconsin 54914; Peggy, 920-734-5244; email: appletonrc@hotmail.com; web: www.besthobbies.com



Gary's Hobby Center, Racine, Wisconsin 53403; Bill Phalen, 262-554-8884



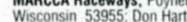
Hobbytown USA - Revolution Raceway, Sheboygan, Wisconsin 53081; Kenny, (920) 452-0801; web: www.hobbytownsheb.com



KDM Raceway, Abbotsford, Wisconsin 54405; Kevin Michlig, 715-223-4414; email: kdmhobby@pcpro.net; web: kdmhobby.homestead.com/kdmhobby.html



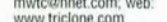
MARCCA Raceways, Poynette, Wisconsin 53955; Don Hartley, 608-243-1778; email: hotrodhartley@aol.com; web: www.marcca.com



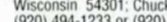
Mid-West Tri-Clone/Tri-Clone OffRoad, West Bend, Wisconsin 53095; Dave Hilpert, 262-334-0429 or 262-626-2238; email: mwtrc@hnet.com; web: www.triclone.com



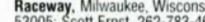
Pro-Star Racing, Green Bay, Wisconsin 54301; Chuck or Terry, (920) 494-1233 or (920) 469-5566



S&N's Trackside Hobbies and Raceway, Milwaukee, Wisconsin 53005; Scott Ernst, 262-783-4699; email: sernst@trackside.com; web: www.trackside.com



The Shortfall Raceway, Eau Claire, Wisconsin 54701; Scott Schoettie, 715-838-8350; email: Scottschoettie@mcledusa.net



WYOMING

Xtreme Hobbies Raceway, Gillette, Wyoming 82718; Krieg Balls, 307-682-6077; email: xtreme@vcn.com

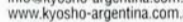


ARGENTINA

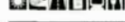
Circito R/C Lobos, Lobos, Buenos Aires 7240; Rupert Bruce, 54-02227-422905; email: rclobos@yahoo.com; web: www.rclobos.8m.com



Circuit M.R. Models, Buenos Aires 1428; Maximiliano Roballos, 54 11 4557 1000, fax 4780 1677; email: info@kyosho-argentina.com.ar; web: www.kyosho-argentina.com.ar



Club A. Velez Sarsfield, Buenos Aires, Jorge Herrero, 54-01-658-5851



AUSTRALIA

A.C.T. Model Car Racing Club, Wanniasa, ACT; Gary Davey, 61-6-2871411



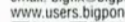
A.C.T. Remote Control Car Club, Kambah, ACT; Rob Jorgensen, 61-2-6231-9925; email: bjorgo@rsr.gov.au; web: users.bigpond.net.au/gr/actrccc.html



Aubry R/C Car Club, Aubry, New South Wales 2640; Ron Langman, 060-247-128



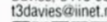
Brisbane Dirt Racing, Brisbane, Queensland 4053; Jeff Chandler, 07 3355 7476, 041 878 3201; email: bigfix@bigpond.net.au; web: www.users.bigpond.net.au/bigfix



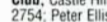
Canberra Off-Road Model Car Club, Narrabundah, ACT 2604; Graham Brown, 61-6-241-3070



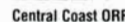
Carine R/C Model Car Club, Inc., Greenwood, Western Australia; Mitchell Davies, 0418 955 981; email: t3daves@iinet.net.au



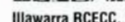
Castle Hill Radio Control Off Road Car Club, Castle Hill, New South Wales 2754; Peter Ellis, 0412 257 353; email: chrccrcc@nextcentury.com.au; web: www2.nextcentury.com.au/chrccrcc



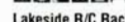
Central Coast ORRC, Bateau Bay, New South Wales 2261; Peter J. Knight, 61-43-693-698



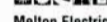
Illawarra RCECC, Albion Park Rail, New South Wales 2527; Mel or Andrew, 042-714-683



Lakeside R/C Racing Car Club, Lansvale, New South Wales 2166; R. Bartolozzi, 62-2-907-9800



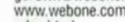
Melton Electric Circuit Car Association, Melton, VIC 3337; Arthur Joslin, 61-3-9747-8805



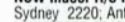
Monaro Radio Control Car Club, Queanbeyan, New South Wales 2902; Graham Brown, 02 6241 3070; email: gbrown@webone.com.au; web: www.webone.com.au/~gbrown/mrccc/index.html



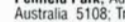
NSW Indoor R/C Raceway, Hurstville, Sydney 2220; Anthony Lee or Walter Ly, 02-9585-8810



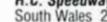
Penfield Park, Adelaide, South Australia 5108; Trevor UNew South Wales, (618) 8289-5010



R.C. Speedway, Newcastle, New South Wales 2300; Andrew Dillon-Smith, 02-49265966



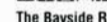
TFTR - Templestowe Flat Track Racers, Templestowe, Victoria 3106; Nigel George, see website; email: tftr@imagelife.net; web: drive.to/tftr



The Bayside Raceway, Brisbane, Queensland 4178; Nigel Bell, 07 3893 1864; email: mwr1@dingblue.net.au



Victorian Radio Control Drag Racing Association, Melbourne, VIC 3940; John de Tracy, 03 59820459; email: bjrn01@hotmail.com; web: www.ozemail.com.au/~john59/index.html



Wee Waa's Offroad RC, Burren Junction, New South Wales 2386; Shane, 61-02-6796-1339



Wodonga R/C Car Club, Wodonga, VIC 3690; Paul Townsend, 02-6056-0706; email: townsend175@ozemail.com.au



AUSTRIA

RMCC-Wien, Vienna A-1220; Herbert Holze/Martin Hrzak, +43-664-4730376



BARBADOS, WEST INDIES

R.O.A.R. (Radio Operated Auto Racing), St. Michael; Marva Clarke, (246) 427-3907

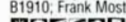


BELGIUM

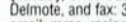
ATR-Alka-Tele-Racing, Limburg; Aiken, 0032-11-25-49-03



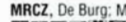
MBV-Kampenhout, Kampenhout B1910; Frank Mostrey, 0-16-65-75-18



Model Racing Club Oudenaarde (MRCO), 9700 Oudenaarde; Nicky Delmote, and fax: 32 55 30 36 25; email: mrcoc_racing@hotmail.com; web: mrcoc-racing.tripod.com



MRCZ, De Burg; Montie, 75-71-63

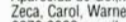


R.C.R., Retie 2470; A. Eelen, 32-14-379685

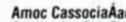


BRAZIL

AGARC Associaçao Goiana de Automodelismo Radiocontrolado, Aparecida de Goiania, GO 74980-070; Zeca, Carol, Warner or Rodrigo, 062 9979 9009; email: zeca.net@terra.com.br



Amoc Cassociaçao de Modelismo B. Cambario, Bal. Cambario, South Carolina 88 330-000; Leo Cesar, (047) 366-0001



Brasilia R/C Motor Circuit, Brasilia, DF 7205; Alexandre (Alex), 55-061-273-7205



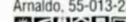
C.A.A.R. Curitiba Associacao de Automodelismo Radiocontrolado, Curitiba, Puerto Rico 82650-530; Ronaldo Assumpcao, 55-41-354-2804



Electric Car Club R/C Santos, Santos, Sao Paulo 11065-001; Estevam or Arnaldo, 55-013-232-2536



Hobby Center, Brasilia, DF 70 273, 061-242-0488



Hobby Planet Racing Club, Campinas, Sao Paulo 13091901; Daniel, Helio, Luciano, 019 258 2768



Jungle Drive, Rio de Janeiro, PB 0851 or (021) 393-7449

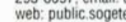


Off Roaders, Sao Paulo, CEP 05640; Waldir Ielpo, (055) 011-260-5628; fax (055) 011-831-4931



CANADA

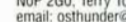
ATN, Saint-Jean-Baptiste-de-Nicolet, Quebec J3T 1E5; Louis Durand, (819) 293-6097; email: durand@sogetel.net; web: public.sogetel.net/durand/



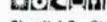
C.A.R.C.A.R., Calgary, Alberta; Kerry Nevatte, 403-630-8852; web: www.car-ca.ca



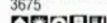
Cactus Speedway, Ruthven, Ontario N0P 2G0; Terry Torelli, (519) 735-7122; email: osthunder@sympatico.ca; web: www.mnsi.net/~glennsparc.htm



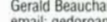
Cam R/C, Coquitlam, British Columbia V3E 1K9; Roger Brown, 604-945-3888



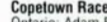
Circuit J.C., St. Polycarpe, Quebec J0P 1X0; Jean Castellon, 450-265-3675



Circuit Teleguide ST Roch, ST Roch De L' Achigan, Quebec J0K 3H0; Gerald Beauchamp, 450-588-4254; email: gedroam@colba.net; web: www.grcsr.com



Copetown Raceway, Copetown, Ontario; Adam Filipowicz; email: adamfilip@home.com; web: copetownraceway.8k.com



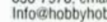
Dynamic Hobbies, Nepean, Ontario K2E7S4; Fred Zulefi, (613) 225-9634; web: www.members.home.net/rcot-tawa



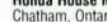
HobbyHobby P.L.R.C., Mississauga, Ontario L5M 1K8; Tom Bakonyi, 905-858-7978; email: Info@hobbyhobby.com; web: www.hobbyhobby.com



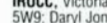
Honda House Motor Speedway, Chatham, Ontario N7M 1P9; John Elliot, (519) 354-5530



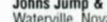
IROCC, Victoria, British Columbia V9B 5W9; Daryl Jones, (250) 478-8013; email: dbjones@shaw.ca



Johns Jump & Grind R/C Track, Waterville, Nova Scotia B0P 1V0; John Egan, 902-538-8920; email: john.egan@ns.sympatico.ca; web: www.jiagrc.com



J-T International Raceway, Napanee, Ontario K7R 8A1; N. O'Neill, (613) 354-0099



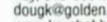
Kays Hobbies R/C Raceway, Moorefield, Ontario N0G 2K0; Doug Kay, 519-638-9990; email: dougk@golden.net; web: www.kayshobbies.place.cc



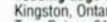
Leading Edge R/C Speedway, Kingston, Ontario K7M 3Y5; Mike and Tony Daicar, 613-389-4878



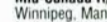
Mid-Canada R/C Auto Racing, Winnipeg, Manitoba R2J 4E6; Jason McBride, 204-231-3324; email: hjmcb@escape.ca; web: www.geocities.com/midcanadarcautoforcing



Miniatures & Passions, Ste. Therese, Quebec J7E 2B4; Gilles Lachance, (450) 979-7989



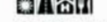
Mini-Z Hobby Shop, Markham, Ontario L3R 0W4; Brian Pong, (905)940-0898; email: info@minizhobbyshop.com; web: www.minizhobbyshop.com



Prince George Radio Controlled Car Club, Prince George, British Columbia V2M 5R9; Doug Waller, 250-561-0035



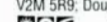
R/C Champ Raceway, Scarborough, Ontario M1H 3A4; Ben, Matthew or Louie, (416) 289-8717; web: www.rchampr.com



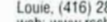
R/C Fanatic, Charlesbourg, Quebec G1G 3Y4; Marc Page (Club President), 418-265-2678; email: info@rctfanatic.com; web: www.rctfanatic.com



Recreation R/C Raceway, Prince George, British Columbia; Doug Waller, (604) 561-0035



Steeltown Speedway, Binbrook, Ontario L0R 1C0; Trevor Harrison, 905-692-3407 (ask for Trevor); email: the_prodigy@zinetonebox.com; web: www.geocities.com/s_speedway



KEY TO SYMBOLS

- | | | | |
|---|----------|--|--------------------|
| | Indoor | | Concrete |
| | Outdoor | | Asphalt |
| | Off-road | | Minis & Micros |
| | On-road | | On-site hobby shop |
| | Oval | | AC power |
| < | | | |

Sudbury Organized Auto Racing, Val Caron, Ontario P3E 1E6, Brad Peacock, 705-897-1435 (Brad); email: soarsudbury1@hotmail.com


The All New R.C. World, Hamilton, Ontario L0R 1W0; Dave, Larry or Brian, (905) 765-2301 or (905) 333-3297


Thompson Valley R/C Raceway, Kamloops, British Columbia V2C 4P3; Brent Wende, (250) 376-7843; email: tvrcr@shaw.ca


Vancouver R/C Road Racers, Coquitlam, British Columbia V3E 1K9; Roger Brown, (604) 945-3888


CHILE

Nico Prohens Off/On Roaders, Ovalle, 4 Region 1; Nicolas Prohens, (56) 53-711579; email: nprohens@entelchile.net; web: 38939070.home.icq.com/


OFF/ON ROADERS, Santiago, Region Metropolitana 1; Mauricio Wetter Ferrer, (56)09-8404174; email: mwetter@entelchile.net; web: 38939070.home.icq.com/


COLOMBIA

Club De Automodelismo Colombiano, Sanatafe De Bogota D.C., Bogota; Jorge Delgado, 1-6130588


Garoso Raceway, Cucuta; Gabriel Rodriguez, 975-751892


COSTA RICA

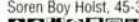
Club de Automodelismo RC10 Costa Rica, San Jose, San Jose; Osvaldo Averbhoff A, (506)2862353; email: nitrocr@hotmail.com


Hobbymania, Hispanidad San Pedro, Montes de Oca; Randall Jimenez, 506-280-9078; email: hobbymanias-tore@hotmail.com; web: www.hobbymanias.com


CYPRUS

Racing Model Club, Nicosia; Andrea Sotiriou, 493186; fax 493229


DENMARK

Brøndby Motor Club, Brøndby 2605; Søren Boy Holst, 45-36-472-462


Holstebro R/C Buggy Club, Holstebro 2600; Michael Brusholt, 45-97-412-734


Klub 144 Raceway, Lyngby 2800; Henrik Carstens, 45-42-88-3691


Rainbow Raceway, Copenhagen 2600; P. Christiansen, 45-52-848-504


Thor Minirace Odense, Odense N 5240; Ulrich Rasmussen, 45-65-303-707


DOMINICAN REPUBLIC

Adoca R/C Speedway, Santo Domingo, (809) 220-5266

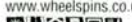

La Barranquilla R/C International Speedway, Santiago, (809) 582-2303


ENGLAND

Chessington Radio Car Club, Worcester Park, Surrey; Ian Spiller, 0252-20657


Hampshire Racing Center, Basingstoke, Hampshire; Tony Eudola, 44-1276-61402


Hinckley RCCC, Hinckley, Leicestershire; Bruce, 01455-890580


Snetterton Market Model Car Club, Norwich, Hampshire NR16 2JU, Lee Shore, 01760 724857; email: kekezeza@fsmail.net; web: www.wheelspins.co.uk


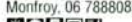
Worcester Model Car Club, St. John's, Worcester WR2 6Q9; Mr. Hardy


FRANCE

Auto Electron, Limoges 87000; M. Boudoul, 55 062763


Auto Model Club de l'ouest, Lojehret 29470; Peuzat Michel, 98071764


Crame Roncq, Mons el Baroeuf; Michael Hondokyn, 33-20042755


CSRM, Lyon 69009; Pierre-Yves Montroy, 06 78880852


Lorgies Bolides, Lorgies 62840; Hourdequin Sabine


GERMANY

Dreykorn Raceway, Lauf 91207; Hermann Hensel, 09123-81457


MAC Zweibruecken, Hueffler 66909; Matthew Bailey, 011-49-6384-1388; email: matthew_w_bailey@hotmail.com; web: www.geocities.com/matthew_w_bailey


MC Koln, Worringen 50769; Ralf Habel, 02733-477493


Mini Car Club Dortmund, Dortmund 4600; Roland Schwan, 0231/213609


Oberhausen-Altstaden, Oberhausen 46099; Josef Holl, 0208-403676


Panik Raceway, Troisdorf 53844; Guido Kraft, 0224-400259


HONDURAS

Autodromo Accion, San Pedro Sula; Colonia Rivera Hernandez; Eduardo Hondal, (504) 52-2061


HONG KONG

H.K.R.C. Model Car Racing Club, Hong Kong; Alex Chan, (852) 659-2822


Kingsville Buggy Arena, Shatin; Pak Yeung, (852) 607-0828


INDONESIA

Abadi Circuit, Bandung, Jawa Barat 40141; Adi Darmawan, 62-22-2012250; email: darmawaa@bdg-center.net.id


Ancol, Jakarta, ACT 14350; Andre Supriyana, 62 21 6506040; email: andre@cbn.net.id; web: www.auvis.com/ja


Jakarta International Twin Circuit, Diki Jaya, Jakarta; Fayakhun Andriadi, 6221-751243g; email: fayakhun@soom.com


Karinda Off-Road R/C Car Model Circuit, Jakarta-Selatan 12440; Winiw W. Soedarmadi, 62-21-7900878


Pondok Cabecircuit, J.L. Kunir No. 83, Jakarta; Ali Agus Salim, 7403568-9; fax 7491533


ISRAEL

IRCCA On-Road Raceway, Rishon Lezion 75650; Shachar Ken-Dror, 972-56-470037; email: dawn@dawn.co.il; web: www.touring-car-up.co.il


Nahshoneat, Haifa 32809; Golan Levy, (972) 039386444 or (972) 04231252


ITALY

AF MODELS RINGS, COLLENO, ACT 10093; ADRIANO FORATO, +39 335 82 58 434; email: afmodels@afmodels.com; web: www.afmodels.com


JAPAN

Kadena R/C Car Club, APO, AP 96367; Ron Nason, 011-81-611-733-1334; email: Ron_Nason@hotmail.com; web: home.attil.ne.jp/b/Carmen_Nason/home.htm


Xiwakuni R/C Track, FPO AP 96310-0978; David T. Eck, 81-611-537-3662


Yokota R/C Racers, APO, AP 96326-0034; John Baker, 90-001-81-31175-7-6471; email: a4jb@ytta.attmil.ne.jp


KUWAIT

Inferno DX 4WD Track, Ahadi 61002; Yousuf Acqatari


LEBANON

Wild Willy RCC, Beirut, 00961-4-403751


MALAYSIA

ACME SPEEDWAY, Georgetown, Penang, PB 10000; MOEY CHEE CHEONG, 604-2613175 & 6012-4189388; email: s_jamm@hotmail.com


Jump Square Arena, Selanhor; Thomson Chong, (603) 656-2513


Niko Sales & Service Centre, Johor Bahru; Niko Cheng, (607) 234-3615; email: niko3@pd.jaring.my; web: www.niko.com.my


Titlhwangsa Raceway, Kuala Lumpur; R.A.C.E. Sdn Bhd., 03-2614496


TP Racing R/C Raceway, Selangor; WONG SOO WEI, +603 56388160; email: wong@tp-racing.com


MEXICO

Aices Off Road, Ensenada, BC 22830; Jorge Bustamante, 667-6-1476, 61477, 86729


Baja JR, Guadalajara, Jalisco 45000; Memo Pancho, 33-3671-5432/33-3832-0155; email: baja_jr@hotmail.com


Club Dinamo Monterrey, Monterrey, Nuevo Leon 64890; Daniel Ornelas Elizondo, +52 (818) 3574588; email: daniel26or@hotmail.com


Club Kyosho Mexico, Mexico, DF 04330; Fernando Lopez, 52 55 (56894150); email: Omega@avantel.net; web: www.speedshopmexico.com


Desstreza Racing Club, Aguascalientes, Aguascalientes; Luis Lopez, 44 98 961296; email: luis_lopez@jabill.com


Hobby Centro, Guadalajara, JAL 45550; Alejandro Ortiz Del Toro, 36-21-46-28


Hobby Model's Raceway, Morelia, Michoacan 58260, 431-5-01-22


Hobby's Formula, DF 01120, 905-502-3620


Jaguar R/C Club, Puebla 72150; Denise or Chiro, 22-31-00-91, 22-33-00-94

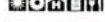

La Hielera, Queretaro, QRO 76160; Jorge Morelos Rabell, 42-12-15-25


Micromotor Club, Jalisco, Jalisco 44640; Francisco Ortiz Sevilla, 52-36418672; email: fstmry@hotmail.com


NITRO RACERS, san jose del cabo / los cabos; FRANCO MEZA, (114) 1424422; email: tcstafe@prodigy.net.mx


Pista Casino, Cuernavaca, Morelos 16507; Luis Duhart, 73-19-12-38

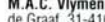

R/C Racing Club, Zapopan, Jalisco 44560; Fernando Hernandez, 3-616-73-47


Tony's Track, Culic-n, Sinaloa; Guillermo Prieto, 67-165708-168141


NETHERLANDS

ERCE Eindhoven, Eindhoven, ACT 5627n; Henk Fick, 040-2480607; email: info@erceracing.nl; web: www.erceracing.nl


H.F.C.C. Hollandia, The Hague; G. de Jong, 031-070-3679820


M.A.C. Vlymen, Nieuwkuik; Arjan van de Graaf, 31-416-376298


R.C.T.D. Circuit, Dordrecht, Zuid Holland 3316 GN, Jan van Kooy, 31-78-618-11-84; email: pkrcracing@bit.nl; web: www.pkrcracing.nl


NEW ZEALAND

Capital Model Racers, Lower Hutt; Roger Whitmarsh, 04-566-5714


Counties R/C Raceway, Pukekohe; R. Northcott, 09-23-86904


Harewood Radio Control Car Club, Christ Church; Dean Johnson, 09-0-3880 344


Papakura Indoor R/C Car Club, Auckland; Colin Perry, 09-298-4711


Western District R/C Off-Road Car Club, Auckland; Chris, 09-838-5201


NORWAY

Aurskog R/C Club, Aurskog; Tommy Gjelleseth, 47-63-86-21-61


Dalen Raceway, Molde; Johnny Reitan, 94 64 52 95

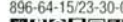

Hadeland Raceway, Gran; Dag Bakke-Nilssen, 61330405

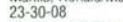

Lornskog RC Bane Track, Sorlihavna, Terje Rosemo, 47-952-44269

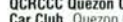

Store-Baller Raceway, 317/99 61330225; Ola Raastad


PHILIPPINES

Boyle R/C Hobby Shop, Rizal; Jose Chua, 721-2555


Philippine F1/Touring Club, Quezon City, Manila 1156; Raymond Aguilar/Ron Villalor, 896-64-15-23-30-08


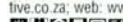
Philippine R/C Association, Manila, Manila; Ronald/Manny Villalor, 23-30-08


QCRCC Quezon City Radio Control Car Club, Quezon City 1008; Desthy, Emer or William, 0917-8911698; email: emerlitoa@quickweb.com.ph; web: www.qcrcc.cjb.net


PORTUGAL

Aero Clube da Madeira, Madeira, fax 091-221265


SOUTH AFRICA

B.R.C.A. Bokisburg Radio Car Association; email: recycle@netactive.co.za; web: www.recycle.co.za


Banana County R/C Racing Club, Margate 4275; Dennis Steenmans, 27-0-391-20975


Frantic Raceway, Welkon; Wayne Roodt, 27-57-35-72849


Gordons Bay R/C Club (GBRC), Gordons Bay, Cape Province; Andre Hollander, 024-512865


Grand Prix Electric Car Club, Bokisburg, Gauteng; Gary Gibson, 27-11-826-1720


Helderland Radio Control Car Club, Somerset West, Cape Province; Andre Hollander, 024-51-2865


Lowveld Radio Control Thunderround, Nelspruit, Eastern Transvaal; Martin Van Der Merwe, 01311-534-6415


MERC Racing, Rustenburg, RSA 0300; Gerrie Pretorius, 014-5974569


Norkem Raceway Club, Gauteng; Dan de Agrella, 2711-972-7011; email: craig@mwweb.co.za


Parow Radio Car Club, Parow, Cape Province; Stirling Spengler, 021-945-4957


Parow Radio Control Car Club, Parow, Cape Province 7530; Craig, +27 21 919-5859; email: craig@kingsley.co.za; web: www.speedmodels.za.org


Phoenix Raceway, Stilfontein, Transvaal; Lionel Edwards, 018-4842863


Pick 'n' Pay Model Car Club, Klerksdrop 2570; H. Grobbs, (27) 18 46245421


R.C. Superbowl, Elsborg,
Johannesburg; Karl Fawcett,
27119076145



Rustenburg Off-Roaders, Rustenberg,
Northwest Province; Jan Van
Vollenhoven, 0142- 24-846



SPAIN

A.D. Diablos, Zaragoza; Carlos
Vicente de Vera, 34-76-605350



ADAM, Madrid; Alvaro Sarabia,
01-7471113



Club Modelismo Catilla, Burgos
09080; A.J. Pereda, 34-47-240130



Club Social Sevillana, Granada; Oscar
Saenz, 958-275282



CRAEM, Madrid; Pablo Llorente,
91-3865952



Motoclub Castellon R.C., Castellon;
Octavio Traver, (34) 64 229705,
(34) 64-237411



Outlaw-Ultima II, Madrid 28016;
Juan Vacas, 915197298



SWEDEN

Amalie Racetrack, Sollenbrunn
5-46632; Tage Johansson



PROCAR Speedway, Veddige 430 20;
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car.se; web: www.procar.se



Sollenbrunn Miniracing Club,
Alingsaas; Tage Johansson, 46-322-
40944; email: tage.j@swipnet.se



Staffanstorps Highway 1:8 Track,
Staffanstorps 245 45; B'rje Petersson,
46 0 46-256832



torvinge raceway, rappestad, SP
59047 vikingstad; mats johansson,
013-808445; email: mats.j@swipnet.se;
web: drive.to/mirac



**Touring 1:10 Raceway (& Mini-Z
Raceway)**, Ronneby, Blekinge 372 35;
Mikael Nilsson, +046 457 160 07;
email: micke12@telia.com; web:
drive.to/rack



SWITZERLAND

E.M.B.C.M. Raceway, Seinen CH-
8854; Markus Schmid, 41-1- 8605229



ERMC Raceway, Grand-Saconnex
1218; M. Maurer, 19-41-22-798-9765



JMRCV-Terraindu Levant, Geneva
1290, fax 19 41 22 7790805



THAILAND

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Maung, Thailand 73000; Mr. Supakiet
Thuwachardenpanich, 66-34-258808;
email: hobbica@yahoo.com



Hot Rod Raceway, Bangkok 10310;
Mr. Vichai Vongphate,
(662) 8602922-5

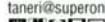


TURKEY

B&B OTO G'ven Raceway, Istanbul,
0216-4186118, or 0216-3490742



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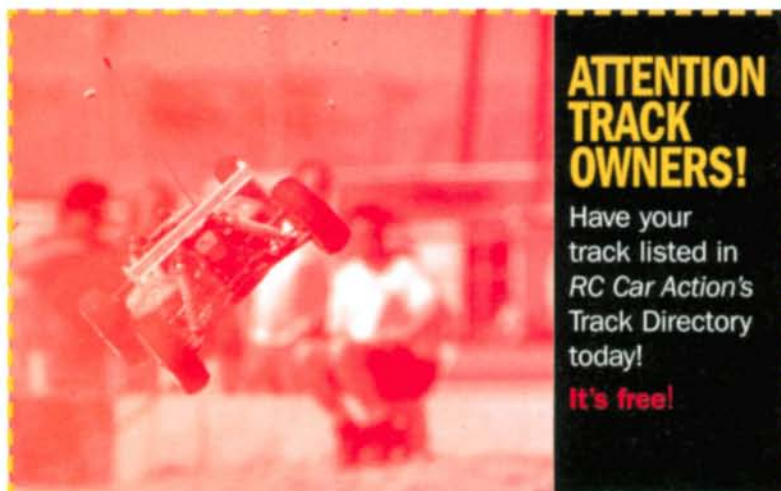
WEST INDIES

Island Raceway, St. Andrew, Jamaica;
Rodney Littau, (809) 926-7034 or
927-1198



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46237



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100 East Ridge

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Address

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State

Zip

Phone no. (required)

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Mini and micro RC cars (Kyosho Mini-Z, HPI Micro RS4, etc.).

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Check all that apply

- ☐ Indoor
- ☐ Outdoor
- ☐ Off-road
- ☐ On-road
- ☐ Oval
- ☐ Dirt

- ☐ Carpet
- ☐ Concrete
- ☐ Asphalt
- ☐ Minis & Micros
- ☐ On-site hobby shop

- ☐ AC power
- ☐ Automatic lap-counting
- ☐ Food available

KEY TO SYMBOLS

- | | | | |
|--|-----------|--|--------------------|
| | Indoor | | Concrete |
| | Outdoor | | Asphalt |
| | Off-road | | Minis & Micros |
| | On-road | | On-site hobby shop |
| | Oval | | AC power |
| | Dirt oval | | Auto lap counting |
| | Carpet | | Food available |

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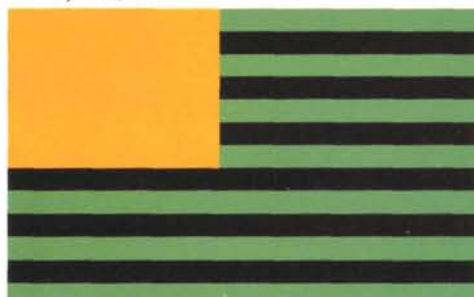
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PAGE O' FUN 2

Hey, if Hollywood can have sequels, why not "Back Lot"? For this follow-up to the original Page O' Fun, we've gathered a couple of headache-inducing optical illusions, a new contest, and a stunt you can do in the pits—one that's sure to win you a free lunch if your sucker racing pals like to bet. Go ahead; take their money.

Eyeball-searing fun!

What could be more patriotic than burning the image of Old Glory onto your retinas? Stare hard at the image of the flag for one minute, without moving your eyes (and try not to blink), and then look at a plain, white piece of paper. Pretty cool, eh?



BACKLOT DRAWING CONTEST



When Adam Schweitzer sent us his excellent artwork, we decided it was time for a drawing contest. Here are the rules:

1. Use any "hands-on" media you like: pencil, markers, paint, airbrush—whatever. Sorry, digital submissions won't be accepted.
2. Be sure to include your name, mailing address and phone number on the back of each drawing you submit. If you're under 18, include your age as well; we'll have a few age categories.
3. All submissions become the property of Air Age Media and will not be returned. (We want them for our refrigerator door.)
4. We need your artwork by June 1, 2003. Send your best stuff to: Back Lot Drawing Contest, c/o Air Age Media, 100 East Ridge, Ridgefield, CT, USA 06877-4606.



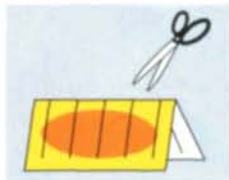
WHAT YOU WIN

Everyone who sends a drawing will receive an RC Car Action decal pack. Our favorite artists will each win an EPIC prize pack courtesy of Team Trinity, including a motor, battery pack, and EPIC hat. You'll be fast and stylish!

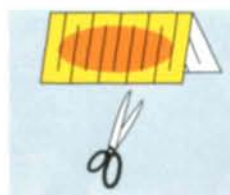
WIN LUNCH!

Next time you're looking for a way to kill a little time between qualifiers (what, were you gonna work on your car?), try this. Grab the header card from the parts you bought after that wipeout during practice and explain that you will actually pass your head through the header card without removing any material from the card. Impossible! Hardly. After you've shaken on the lunch bet, follow the instructions below to collect your L19 luncheon special:

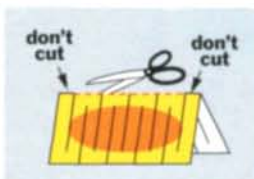
1. Cut down from the fold ...



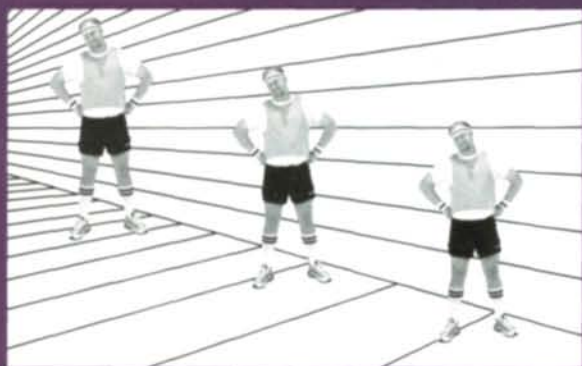
2. Cut up toward the fold ...



3. Cut across the fold, but don't cut the ends ...



4. Now open the card and stick your head through. You win!



Which Kevin is taller? Gotcha! They're all the same height (and equally fat). Go ahead; measure. If you're into optical illusions, check out optillusions.com for many more eyeball twisters.

At this point, all your friends will say, "Aw, that's weak." But trust me, they'll try to impress some girl with this trick later. ■